

# Attachment 9



## GIDEON WELLES MIDDLE SCHOOL



### AIR HANDLING UNITS REPLACEMENT

Project # GL-2024-03

1029 Neipsic Road

GLASTONBURY, CONNECTICUT 06033

M/E/P ENGINEER  
BEMIS ASSOCIATES LLC  
185 MAIN STREET  
FARMINGTON, CONNECTICUT  
Phone: 860-667-3233  
Fax: 860-321-7070

#### LIST OF DRAWINGS

COVER

S-1 STRUCTURAL NOTES AND FRAMING PLAN

S-2 STRUCTURAL DETAILS

M1.1D 1st FLOOR and 2nd FLOOR PART PLAN SECTION C  
MECHANICAL DEMOLITION

M1.1 2nd FLOOR PART PLANS SECTION C  
MECHANICAL DEMOLITION AND NEW WORK

M1.2 1st FLOOR PART PLAN SECTION B  
MECHANICAL DEMOLITION AND NEW WORK

M2.0 MECHANICAL SCHEDULES AND DETAILS

M2.1 TEMPERATURE CONTROLS

E0.1 ELECTRICAL SYMBOLS, SCHEDULES,  
NOTES AND DETAILS

E1.1D 1st & 2nd FLOOR PART PLANS SECTION B&C  
ELECTRICAL DEMOLITION

E1.1 1st FLOOR PART PLAN SECTION B&C  
ELECTRICAL NEW WORK

E1.2 1st & 2nd FLOOR PART PLANS SECTION B&C  
ELECTRICAL NEW WORK

STRUCTURAL NOTES

- A. GENERAL
- A1. UNLESS OTHERWISE NOTED WITHIN THE STRUCTURAL DRAWINGS, THE SECTIONS AND DETAILS SHOWN SHALL BE CONSIDERED TYPICAL AND CONTIGUOUS AND SHALL BE APPLICABLE TO SIMILAR CONDITIONS WITHIN THE PROJECT SCOPE.
- A2. THE STRUCTURAL DRAWINGS, INCLUDING ALL PLANS, SECTIONS, DETAILS AND SPECIFICATIONS, SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS, SITE/CIVIL/LANDSCAPE DRAWINGS, MECHANICAL/ELECTRICAL/PLUMBING DRAWINGS, FINAL CONTRACTOR COORDINATION DRAWINGS, AND VENDOR CERTIFIED DIMENSION DRAWINGS TO PREPARE SHOP DRAWINGS WITH SUFFICIENT DETAIL AND DIMENSIONS TO COMPLETE THE WORK.
- A3. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS THAT WILL AFFECT THE LAYOUT AND SEQUENCING OF THEIR WORK.
- A4. EXISTING BUILDING INFORMATION, DIMENSIONS AND ELEVATIONS ARE TAKEN FROM OWNER PROVIDED DRAWINGS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTORS. INCONSISTENCIES BETWEEN EXISTING CONDITIONS AND THE INFORMATION PROVIDED IN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION AND DIRECTION.
- A5. ATTACHMENT AND SUPPORT OF MECHANICAL EQUIPMENT SHALL FOLLOW THE MANUFACTURER INSTALLATION INSTRUCTIONS.
- A6. THE STRUCTURE HAS BEEN ENGINEERED TO BE SELF SUPPORTING ONCE THE WORK IS COMPLETE. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR THE STRUCTURES STABILITY DURING CONSTRUCTION INCLUDING MEANS METHODS OF ERECTION, TEMPORARY SHORING AND TEMPORARY BRACING.
- A7. THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR FOLLOWING ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF THE WORK.
- A8. ALL MECHANICAL OR ADHESIVE ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTALLATION REQUIREMENTS.
- A9. CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL ROOF AND FLOOR OPENINGS WITH ARCHITECTURAL AND MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.
- B. DESIGN INFORMATION
- B1. ALTERATIONS TO THE BUILDING STRUCTURE HAVE BEEN ENGINEERED IN ACCORDANCE WITH THE APPLICABLE STRUCTURAL PROVISIONS IN THE BUILDING CODE LISTED IN THE DESIGN DATA TABLE.
- B2. REFER TO THE DESIGN DATA TABLE FOR THE APPLICABLE CODES AND DESIGN REFERENCES USED IN THE ENGINEERING OF WORK PRESENTED IN THESE DOCUMENTS.
- B3. REFER TO THE DESIGN DATA TABLE FOR LIVE LOADS, SNOW LOADS, WIND LOADS, SEISMIC LOADS AND RELATED DESIGN PARAMETERS.
- B4. THE DESIGN LOADING FOR MECHANICAL EQUIPMENT SPECIFIED IN THE WORK IS BASED ON THE OPERATIONAL WEIGHT AND DYNAMIC FORCES PUBLISHED IN MANUFACTURERS CUT SHEET DATA AT THE TIME OF THE DESIGN.

C. STRUCTURAL STEEL

- C1. ALL CONNECTIONS SHALL BE DETAILED BY THE STEEL FABRICATOR TO SUPPORT THE UNIFORM LOAD TABLE'S MAXIMUM UNIFORM LOAD AS CALLED FOR IN THE A.I.S.C. UNLESS THE REACTIONS ARE INDICATED ON THE PLANS.
- C2. WELDING TO EXISTING STEEL SURFACES SHALL BE CONDUCTED IN ACCORDANCE WITH AWS D1.1 REQUIREMENTS. WHEN WELDING SURFACE PREPARATION REQUIRES THE REMOVAL OF PAINT THE OWNER SHALL PROVIDE APPROPRIATE DOCUMENTATION AS TO THE IDENTIFICATION OF ANY LEAD BASED PAINT AND SHALL PROVIDE THE REMOVAL OR ABATEMENT OF LEAD BASED PAINT IN THE AREA TO BE WELDED. REMOVAL AND DISPOSAL OF LEAD BASED PAINT SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- C3. ALL BOLTED CONNECTIONS SHALL USE HIGH STRENGTH A325 OR A490 BOLTS
- C4. ALL WELDED CONNECTIONS SHALL USE E70-XX ELECTRODES
- C5. ALL STEEL AND CONNECTING HARDWARE EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, ASTM 153, OR ASTM A653 AS APPLICABLE.
- D. SUBMITTALS
- D1. SHOP DRAWINGS SHALL BE PROVIDED IN ELECTRONIC PDF FORMAT.
- D2. ELECTRONIC PDF SUBMITTALS WILL BE RETURNED WITHIN 14 DAYS

DESIGN DATA

CODES USED

2022 CONNECTICUT STATE BUILDING CODE  
 2021 INTERNATIONAL BUILDING CODE  
 2021 INTERNATIONAL EXISTING BUILDING CODE  
 ACI 318-19  
 ANSI/AISC 360-16  
 ASCE/SEI 7-16

DESIGN STRESSES USED

STRUCTURAL STEEL SHAPES	ASTM - A992	$F_y = 50$ ksi
MISC. ANGLES AND PLATES	ASTM - A36	$F_y = 36$ ksi
HOLLOW STRUCTURAL STEEL - RECT.	ASTM - A500 GRADE B	
CONCRETE	$f'_c$ AT 28 DAYS	3,500 psi
REINFORCING STEEL	ASTM - GRADE 60	
CONCRETE MASONRY	$f'_m$	1,500 psi
GROUT COMPRESSIVE STRENGTH		2,000 psi
MORTAR FOR BLOCK	TYPE S	
SOIL BEARING CAPACITY	4,000 PSF	

LIVE LOADS

STAIRS AND PUBLIC CORRIDORS	100 PSF
CLASSROOMS	40 PSF

SNOW LOADS

GROUND SNOW LOAD	$P_g = 30.0$ PSF
SNOW THERMAL FACTOR	$C_t = 1.0$
SNOW EXPOSURE FACTOR	$C_e = 1.0$
BUILDING CATEGORY	CATEGORY III
SNOW IMPORTANCE FACTOR	$I_s = 1.0$
FLAT ROOF SNOW LOAD	$P_f = 30.0$ PSF

WIND LOADS

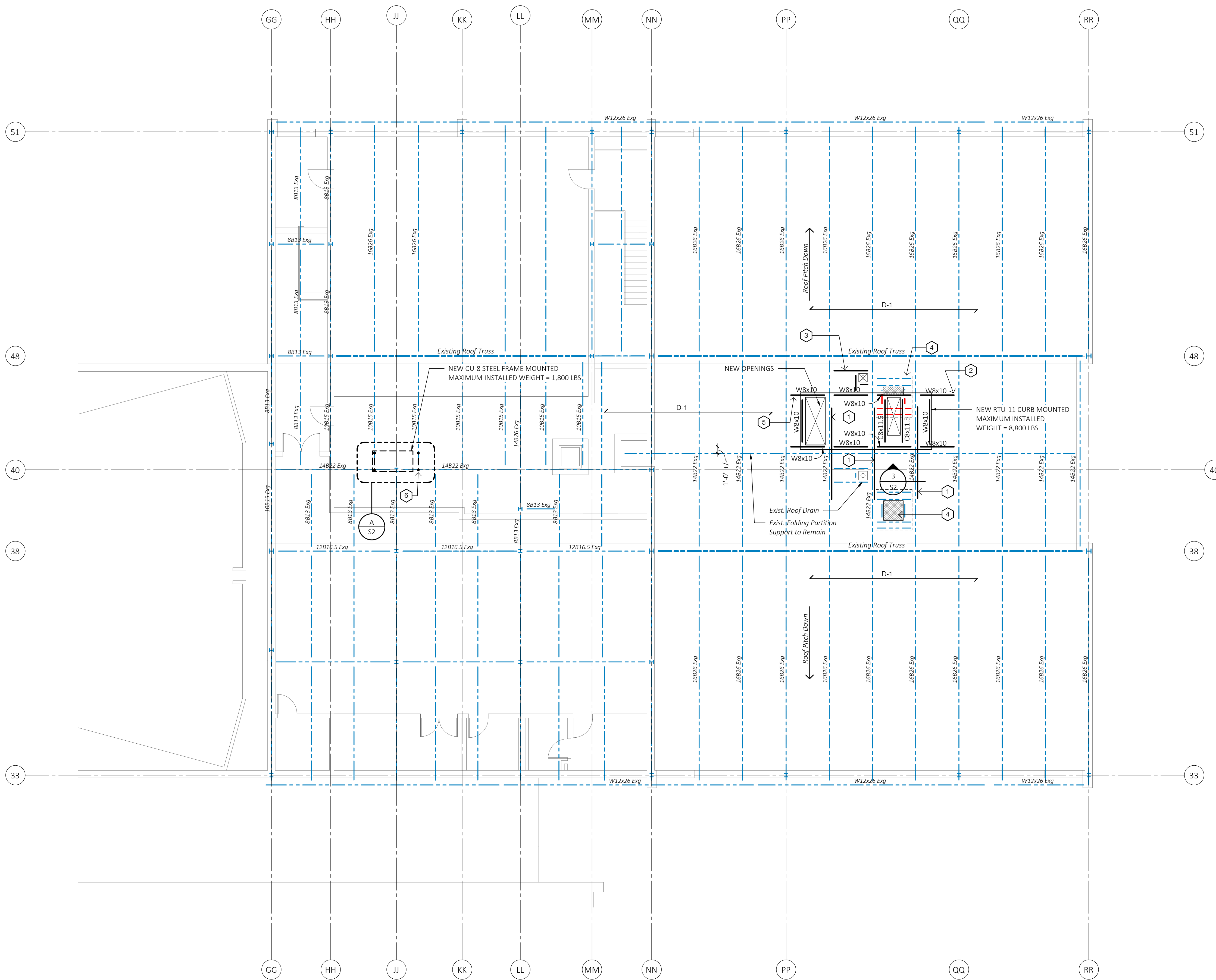
BASIC WIND SPEED	125 MPH
BUILDING RISK CATEGORY	CATEGORY III
WIND EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFFICIENT	$G_C = +/- 0.18$

SEISMIC DATA

ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
BUILDING RISK CATEGORY	CATEGORY III
SEISMIC IMPORTANCE FACTOR	$I_s = 1.25$
MAPPED SPECTRAL RESPONSE ACCELERATION, SHORT PERIOD	$S_s = 0.225$
MAPPED SPECTRAL RESPONSE ACCELERATION, 1-sec PERIOD	$S_1 = 0.056$
SITE CLASS	D
DESIGN SPECTRAL RESPONSE ACCELERATION, SHORT PERIOD	$S_{DS} = 0.240$
DESIGN SPECTRAL RESPONSE ACCELERATION, 1-sec PERIOD	$S_{D1} = 0.090$
SEISMIC DESIGN CATEGORY	B
RESPONSE MODIFICATION FACTOR	$R = 3.0$
SEISMIC RESPONSE COEFFICIENT	$C_s = 0.10$
DESIGN BASE SHEAR	UNCHANGED FROM EXISTING
BASIC SEISMIC FORCE-RESISTING SYSTEM	EXISTING UNALTERED

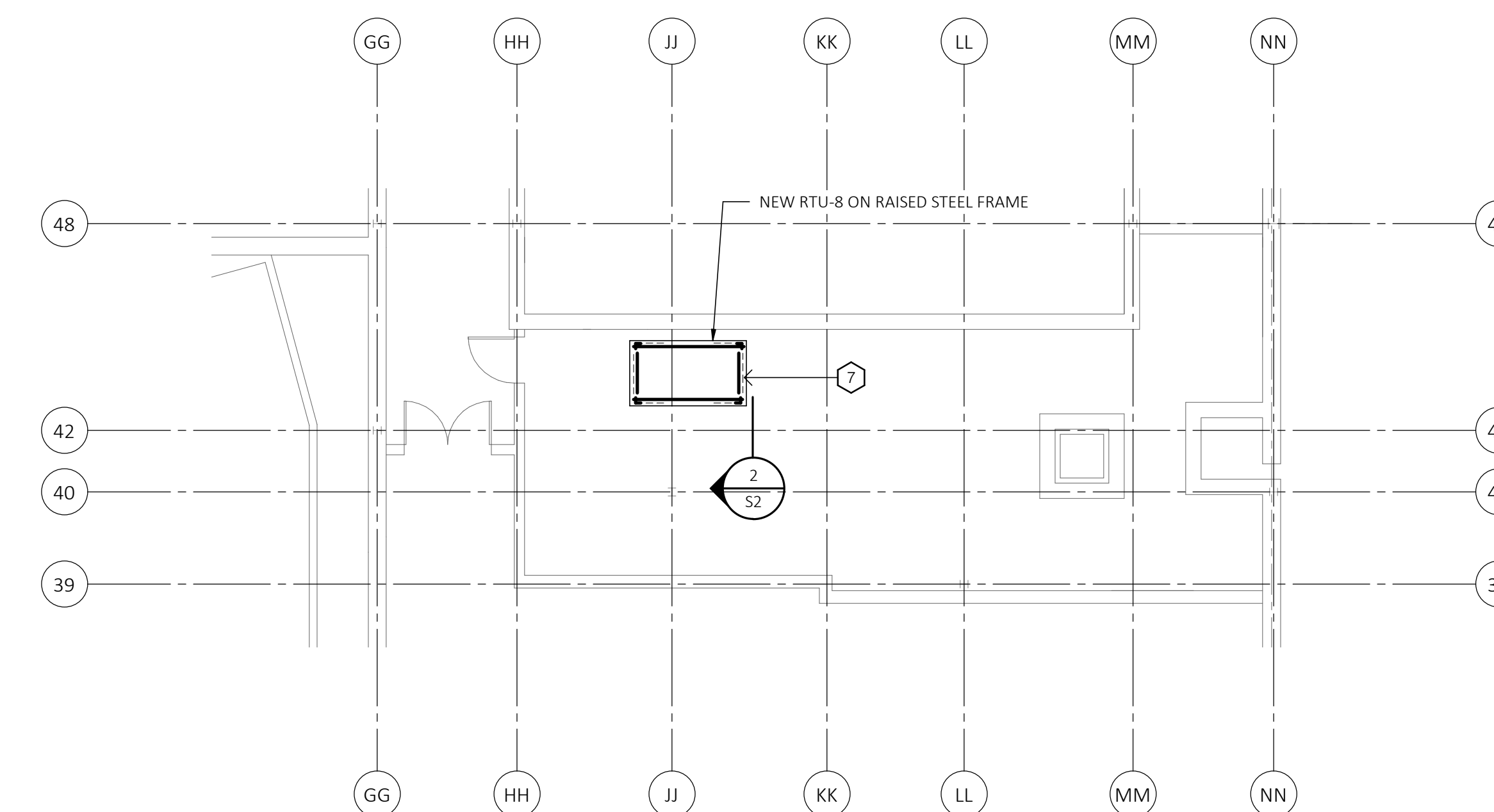
KEY NOTES

- 1 REINFORCE EXISTING 14822 STEEL BEAMS. PROVIDE 14'-0" LONG REINFORCEMENT CENTERED ON THE BEAM SPAN. PROVIDE PROTECTION OF EXISTING FINISHES DURING WELDING AND FINISH WORK. PREPARE STEEL FOR WELDING IN ACCORDANCE WITH AWS STANDARDS.
- 2 NEW STEEL FRAMING INSTALLED TO EXISTING FRAMING. PROVIDE SHEAR PLATE CONNECTION WITH 4 KIP ALLOWABLE SHEAR CAPACITY TYPICAL.
- 3 NEW 14x4x1/4 STEEL FRAME WELD TO EXISTING AND NEW STEEL INSTALL TIGHT TO BULB-TEE PURLINS AND PROVIDE NEW OPENING FOR ROOF DRAIN.
- 4 REMOVE EXISTING EXHAUST FANS, HOUSING, CURB AND STEEL FRAMING TO INSTALL THE NEW WORK. PATCH ROOFING AND EXISTING OPENING.
- 5 NEW STEEL FRAME INSTALLED TIGHT TO EXISTING BULB-TEE PURLINS. PROVIDE SHOP PRIMER, PAINT TO MATCH EXISTING FINISHES AFTER INSTALLATION. ALL DIMENSIONS TO NEW STEEL WILL BE COORDINATED BY THE CONTRACTOR USING THE EQUIPMENT VENDOR DRAWINGS. LOCATE NEW STEEL UNDER EQUIPMENT CURBS.
- 6 LOCATE NEW STEEL POSTS OVER EXISTING STEEL FRAMING. CONTRACTOR WILL PROVIDED DIMENSIONS TO THE EXISTING STEEL FRAMING FOR DETAILING THE WORK.
- 7 BOLT NEW FRAME TO CONCRETE FLOOR WITH EXPANSION BOLTS. COORDINATE FRAME HEIGHT WITH EQUIPMENT AND DUCT CONNECTION REQUIREMENTS.



PART ROOF PLAN - SECTION C

1/8" = 1'-0"

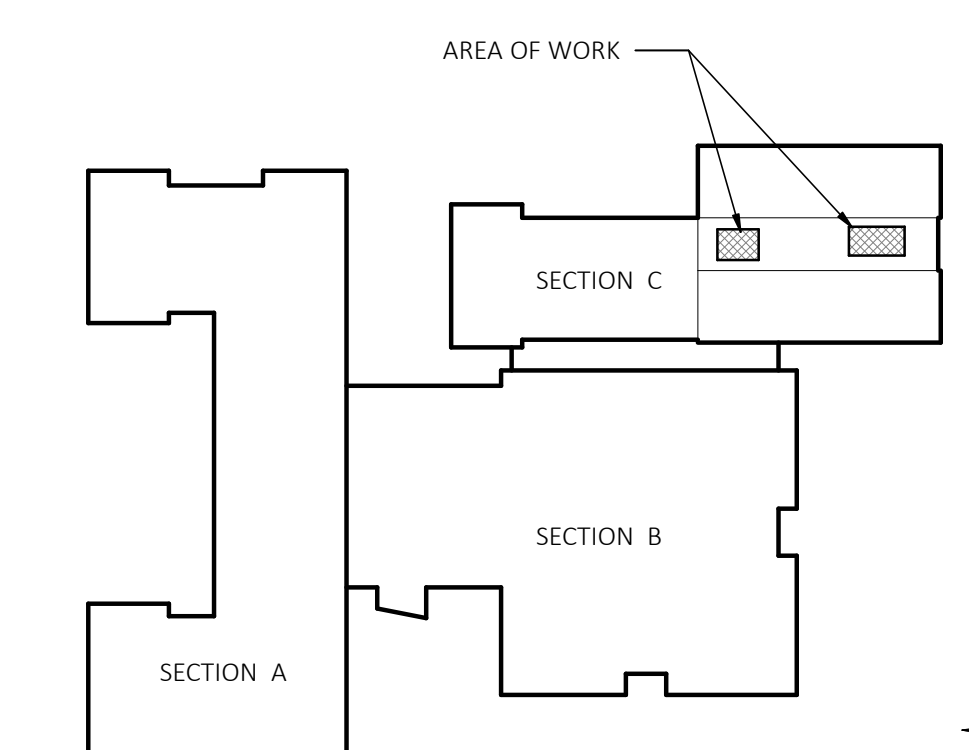


PART PLAN AHU-8 FRAME

1/8" = 1'-0"

STRUCTURAL FRAMING PLAN LEGEND

- KEY NOTE NUMERICAL DESIGNATION REFER TO KEY NOTE LEGEND
- INDICATES SPAN DIRECTION OF BULB-TEE PURLINS SUPPORTING FIBER PANELS AND GYPSUM FILL
- DEMOLISHED FRAMING HIDDEN LINE (RED)
- EXISTING FRAMING TO REMAIN, PHANTOM LINE WITH ITALIC TEXT
- NEW FRAMING, SOLID BOLD LINES



KEY PLAN

N.T.S.

REVISIONS

**COPYRIGHT**  
 This drawing is the intellectual property of Girard & Co. Engineers, L.L.C. and is to be used only for the project and location specified. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Girard & Co. Engineers, L.L.C.

**GIDEON WELLES MIDDLE SCHOOL**  
 AIR HANDLING UNIT REPLACEMENT  
 GLASTONBURY, CONNECTICUT

STRUCTURAL ENGINEER:  
  
 GIRARD & CO. ENGINEERS, L.L.C.  
 10 WATERCHASE DRIVE  
 ROCKY HILL, CT 06067  
 860.563.3800  
 WWW.GIRARDCO.COM

BEWIS ASSOCIATES, L.L.C.  
 Consulting Engineers  
 182 Main Street  
 Farmington, CT 06031  
 Tel: (860) 327-7070  
 Fax: (860) 327-7070  
 www.bewisassociates.com

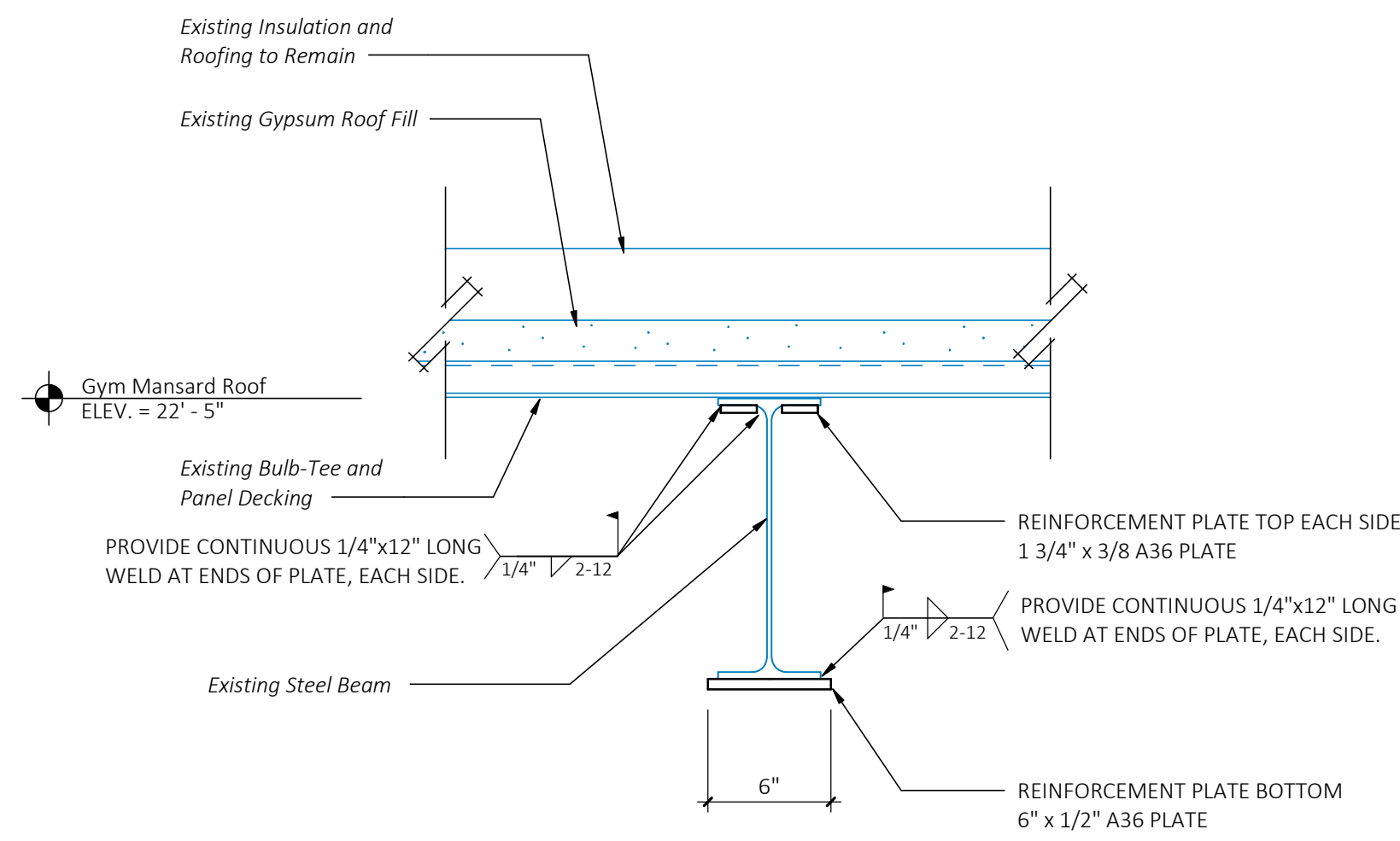
TITLE  
 STRUCTURAL NOTES AND FRAMING PLANS

DATE 7/5/2023

DWG. NO.

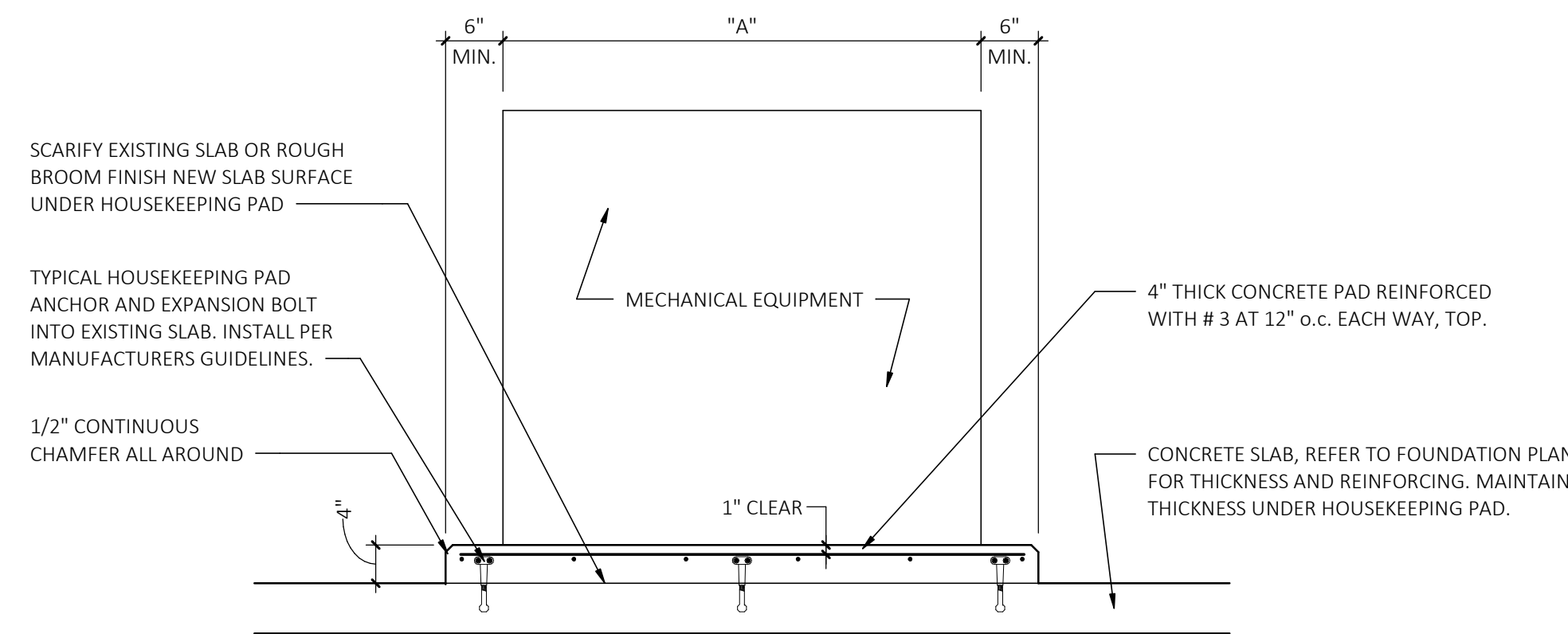
**S1**





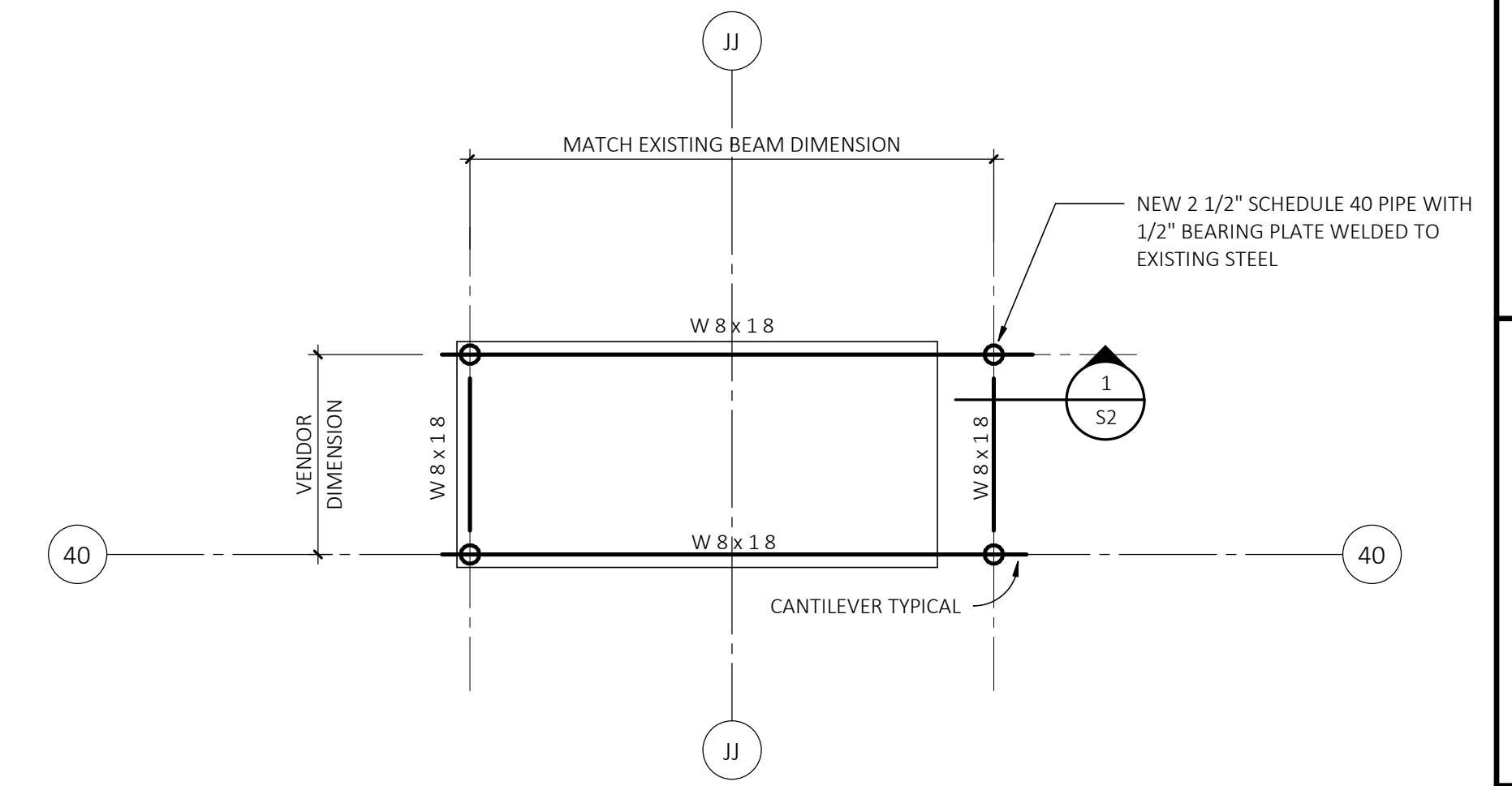
**TYPICAL BEAM REINFORCEMENT DETAIL**  
1 1/2" = 1'-0"

- NOTES:  
1. ALL REINFORCEMENT PLATES CONTINUOUS 14'-0" LONG AND CENTERED ON BEAM SPAN  
2. PAINT BEAM AND REINFORCING PLATES TO MATCH EXISTING FINISH

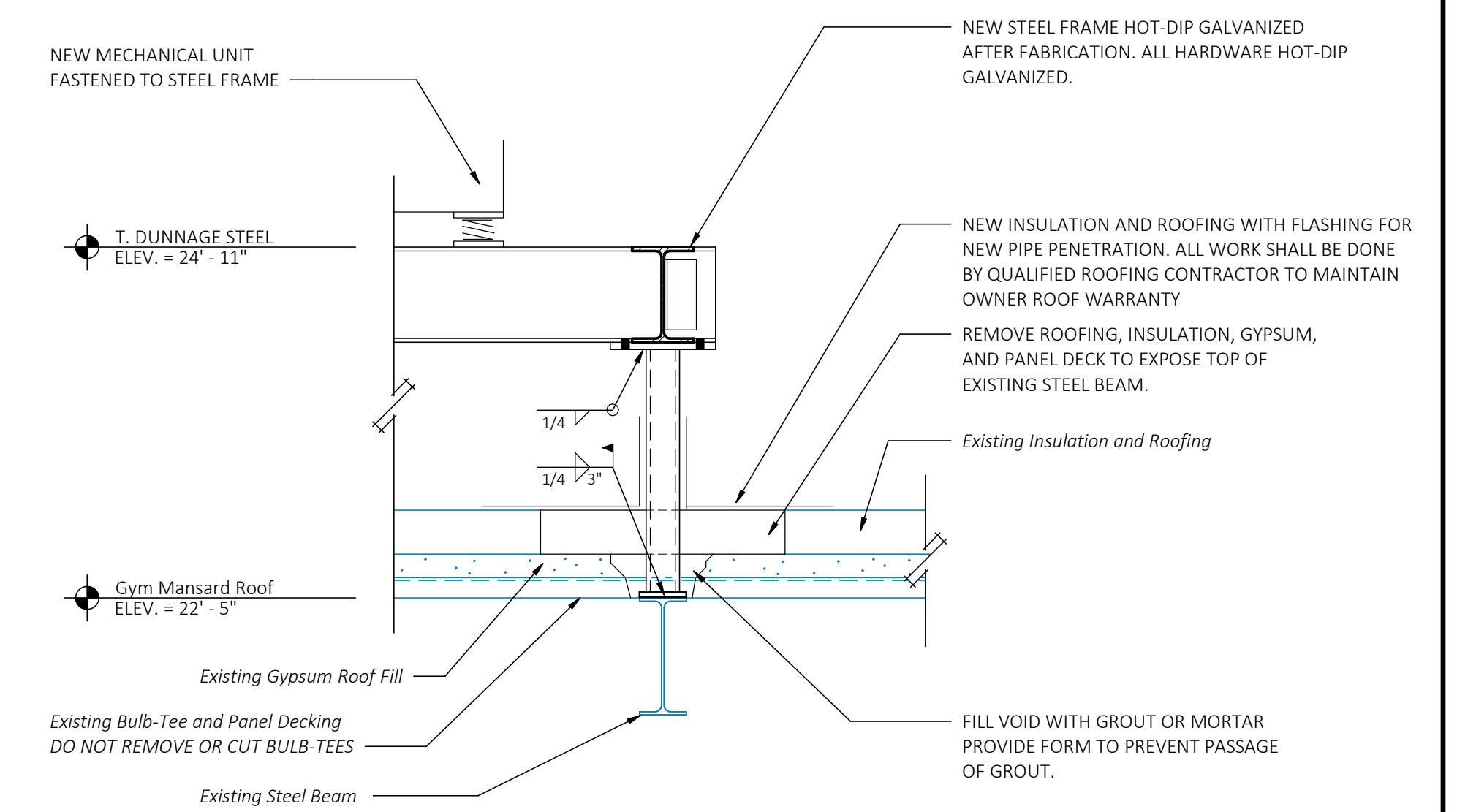


**TYPICAL HOUSEKEEPING PAD DETAIL**  
3/4" = 1'-0"

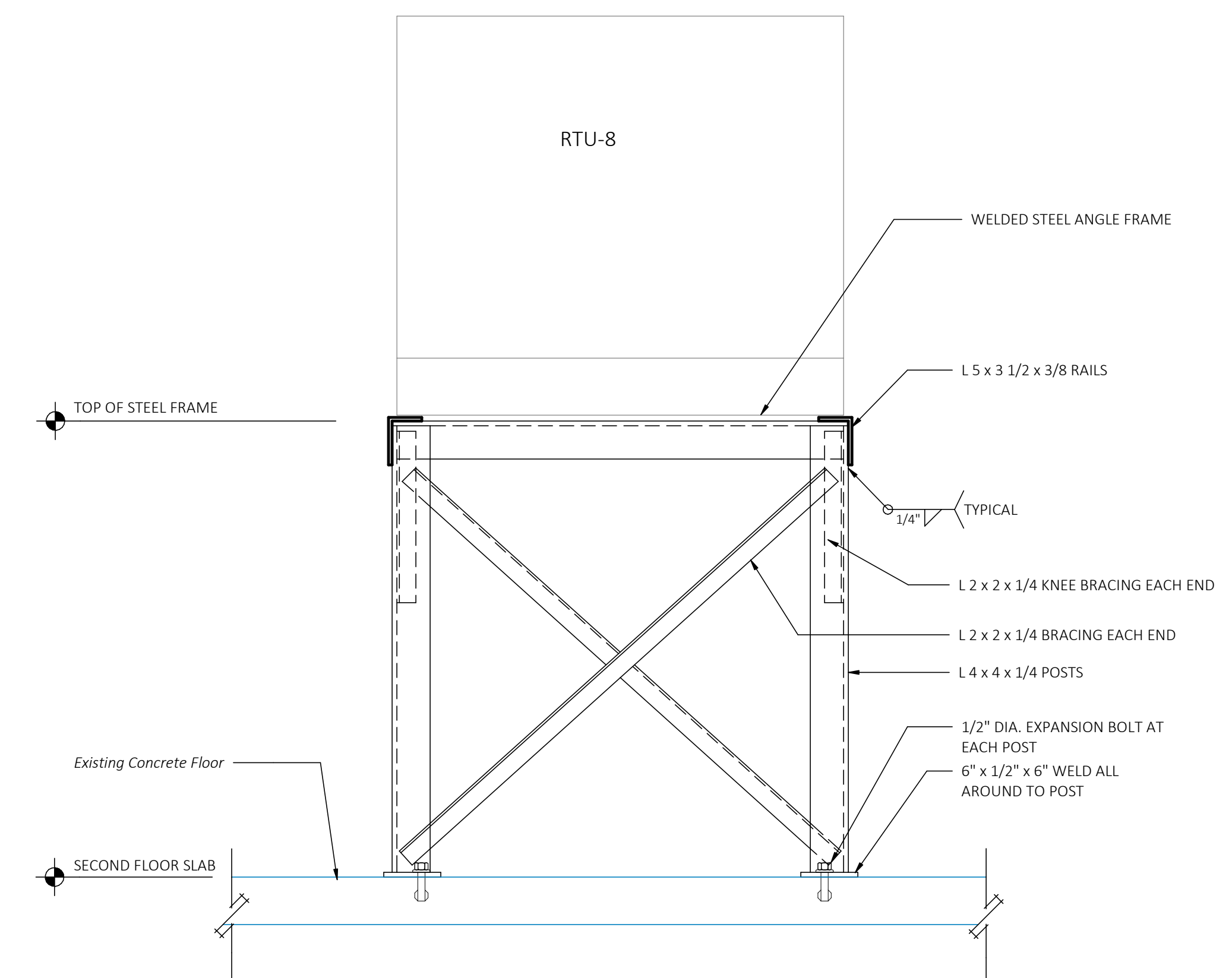
- NOTES:  
1. THE CONTRACTOR SHALL COORDINATE DIMENSIONS NOTED AS "A" WITH SIZE OF MECHANICAL EQUIPMENT SUPPLIED.  
2. REFER TO MECHANICAL DRAWINGS FOR THE ANCHORAGE OF MECHANICAL EQUIPMENT TO THE HOUSEKEEPING PAD.



**STEEL FRAMING PLAN - CU 8**  
1/2" = 1'-0"



**TYPICAL ELEVATED STEEL SUPPORT DETAIL**  
1" = 1'-0"



**TYPICAL WELDED SUPPORT FRAME DETAIL**  
1" = 1'-0"

REVISIONS

**GIDEON WELLES MIDDLE SCHOOL**  
AIR HANDLING UNIT REPLACEMENT  
GLASTONBURY, CONNECTICUT

STRUCTURAL ENGINEER:  
**GIRARD & CO. ENGINEERS, LLC**  
10 WATERCHASE DRIVE  
ROCKY HILL, CT 06067  
860.563.3800  
WWW.GIRARDCO.COM

**BEMIS ASSOCIATES, L.L.C.**  
Consulting Engineers  
185 Main Street  
Farmington, CT 06030  
Tel: (860) 327-7070  
Fax: (860) 327-7070  
www.bemisassociates.com

TITLE  
STRUCTURAL DETAILS

DATE 7/5/2023

DWG. NO.  
**S2**

**- MECHANICAL / ELECTRICAL DEMOLITION WORK SYMBOLS -**

KEY NOTES DESCRIBE IN GENERAL THE SCOPE OF EQUIPMENT REMOVED. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH NEW WORK PLANS PRIOR TO REMOVING THE ITEM.

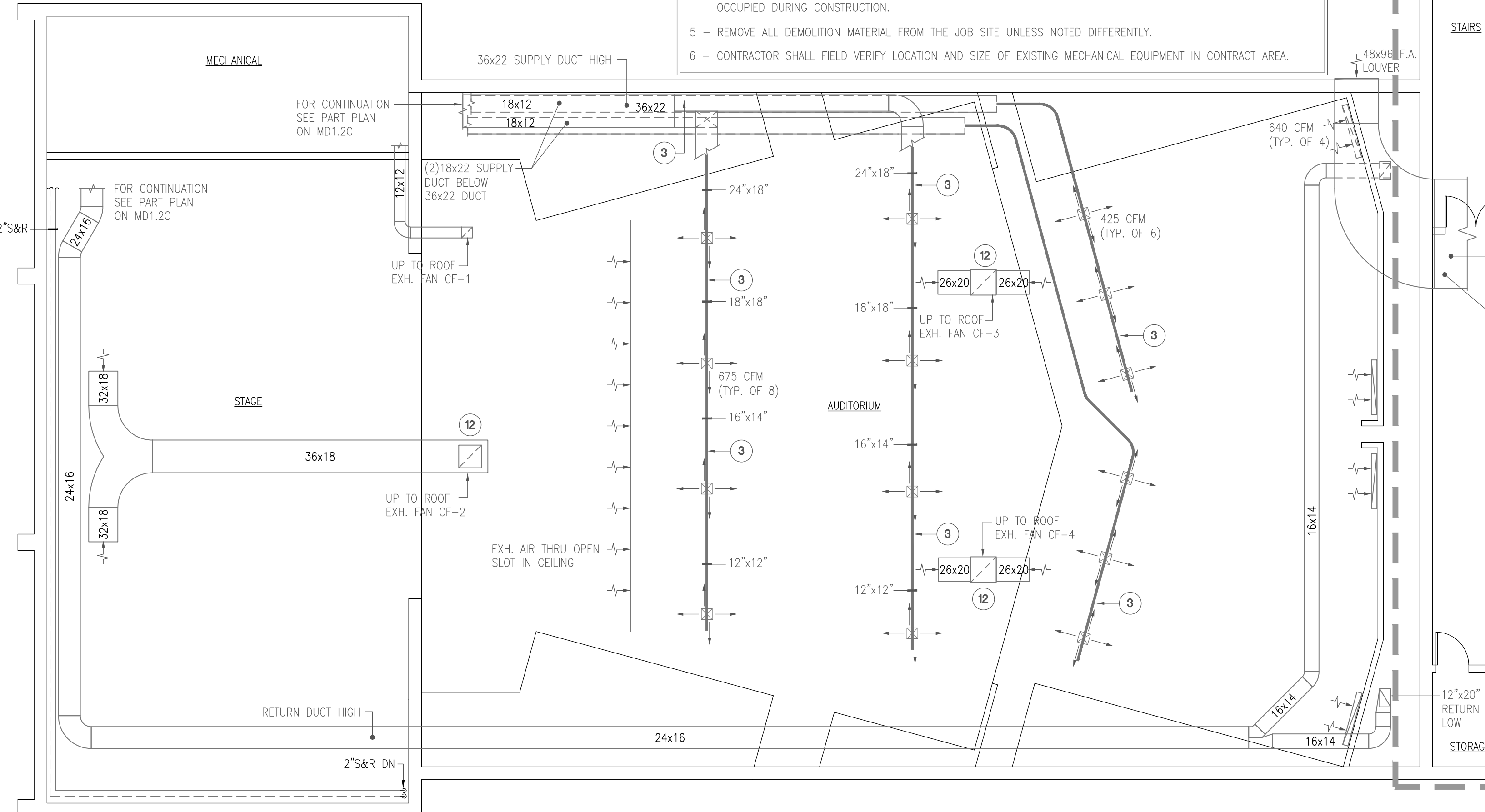
TAG	ACTION
1	EXISTING AIR HANDLING UNIT AND ASSOCIATED HOT WATER PIPING AND VALVES SHALL BE REMOVED, CAP REMAINING FOR FUTURE CONNECTION.
2	EXISTING THERMOSTAT SHALL BE REMOVED, PATCH TO MATCH AND PAINT TO MATCH WALL.
3	REMOVE AND REPLACE ALL EXISTING DUCT INSULATION ASSOCIATED WITH THE AIR HANDLING UNIT BEING REPLACED, CLEAN, DISINFECT AND SEAL REMAINING DUCTS.
4	EXISTING LOUVER AND DUCT SHALL BE TEMPORARILY REMOVED AND REINSTALLED TO ALLOW FOR NEW UNIT INSTALLATION.
5	EXISTING DUCT MOUNTED COIL, PIPING, ACCESSORIES AND CONTROLS SHALL BE REMOVED CAP REMAINING FOR FUTURE CONNECTION.
6	EXISTING FIN-TUBE RADIATION SHALL REMAIN, CLEAN AND DISINFECT FINS.
7	EXISTING AIR HANDLING UNIT AND ASSOCIATED SUPPLY AND RETURN DUCTWORK, INSULATION, HOT WATER REHEAT PIPING, VALVES AND CONTROLS SHALL BE REMOVED, CAP AND SEAL REMAINING PIPES AT MAIN. PATCH TO MATCH AND PAINT DUCT OPENINGS THROUGH THE GYM WALL.
8	EXISTING AIR HANDLING UNIT SHALL REMAIN.
9	REMOVE AND REPLACE ALL THE EXISTING PIPE INSULATION ASSOCIATED WITH THE AIR HANDLING UNIT THAT IS BEING REPLACED.
10	REMOVE ALL THE EXISTING MOTORIZED DAMPERS AND DAMPER ACTUATORS ASSOCIATED WITH THE AIR HANDLING UNIT THAT IS BEING REPLACED.
11	EXISTING DUCTWORK SHALL BE REMOVED, PATCH TO MATCH REMAINING.
12	EXISTING FAN SHALL BE REPLACED IN KIND, PROVIDE CURB ADAPTOR. FAN SHALL BE INTERLOCKED WITH NEW AIR HANDLING UNIT SERVING THE AUDITORIUM.
13	EXISTING EXHAUST FAN SHALL BE REMOVED, PATCH TO MATCH ROOF AND MAKE SAFE.

**GENERAL DEMOLITION NOTES**

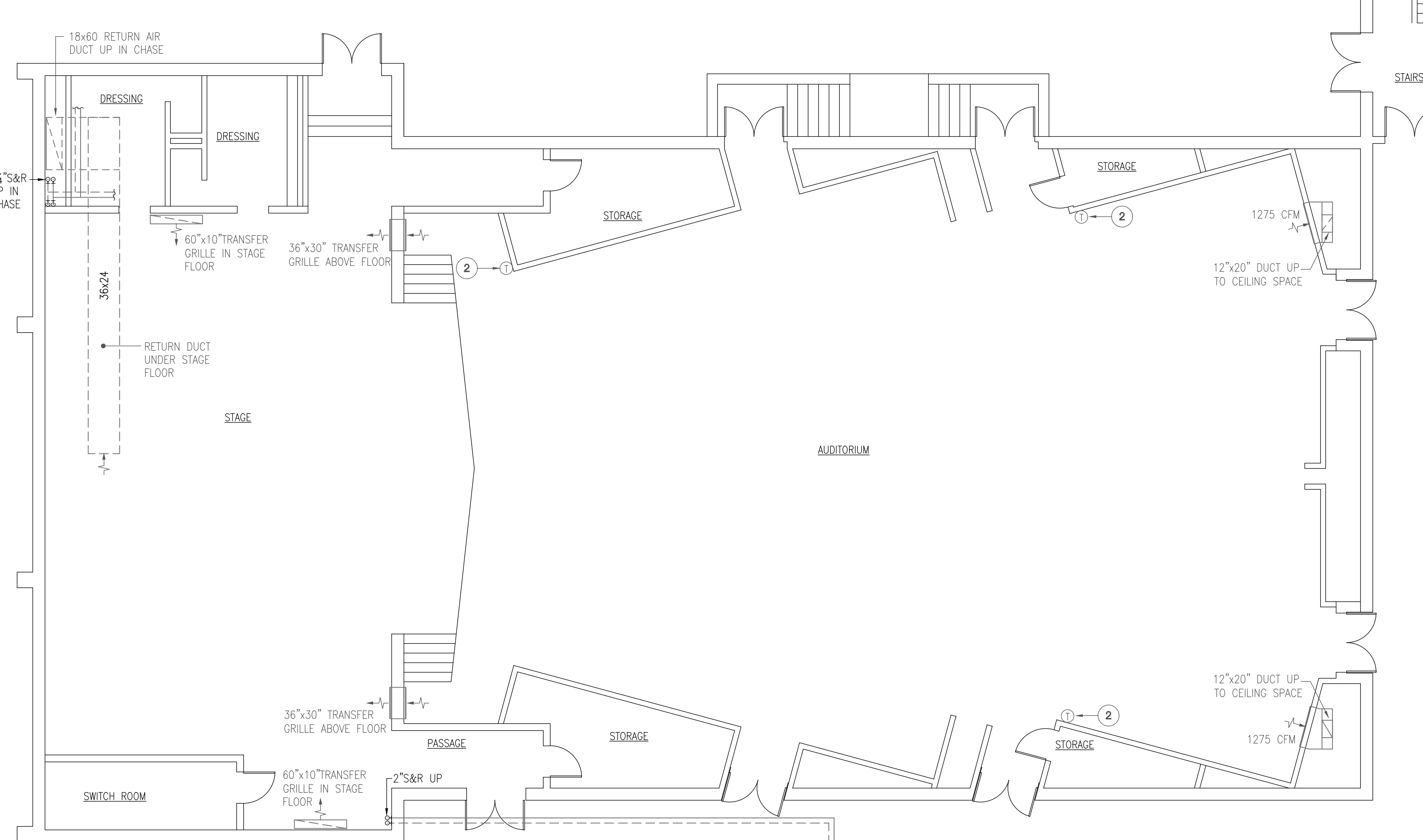
- 1 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL, SEWER, WATER, GAS, TELEPHONE, ETC. THE DRAWINGS SHOW DIAGRAMMATICALLY THE APPROXIMATE LOCATION OF UTILITIES WHERE INFORMATION IS AVAILABLE, BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL PHASES OF THE WORK TO LOCATE, IDENTIFY, AND PROTECT EXISTING UTILITIES. THE CONTRACTOR SHALL RECORD RECORD LOCATION OF AND REPAIR DAMAGE TO EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT.
- 2 - ANY EQUIPMENT REMOVED DURING DEMOLITION WORK MAY BE RETAINED BY THE OWNER AT HIS OPTION. ANY SUCH MATERIAL SHALL BE STORED IN THE BUILDING AT A LOCATION DESIGNATED BY THE OWNER. REMOVAL OF SUCH MATERIAL FROM THE JOB SITE SHALL BE THE OWNER'S RESPONSIBILITY.
- 3 - CONTRACTOR SHALL MEASURE AND RECORD EXISTING WATER AND AIR FLOWS, INCLUDING PRESSURE DROP PRIOR TO ANY DEMOLITION. MEASUREMENTS SHALL BE TAKEN AT EACH PIECE OF EQUIPMENT THAT IS INCLUDED IN THE SCOPE OF WORK.
- 4 - THIS CONTRACTOR IS RESPONSIBLE FOR PROTECTION EXISTING FINISHES AND EQUIPMENT DURING CONSTRUCTION.

**MECHANICAL DEMOLITION WORK NOTES**

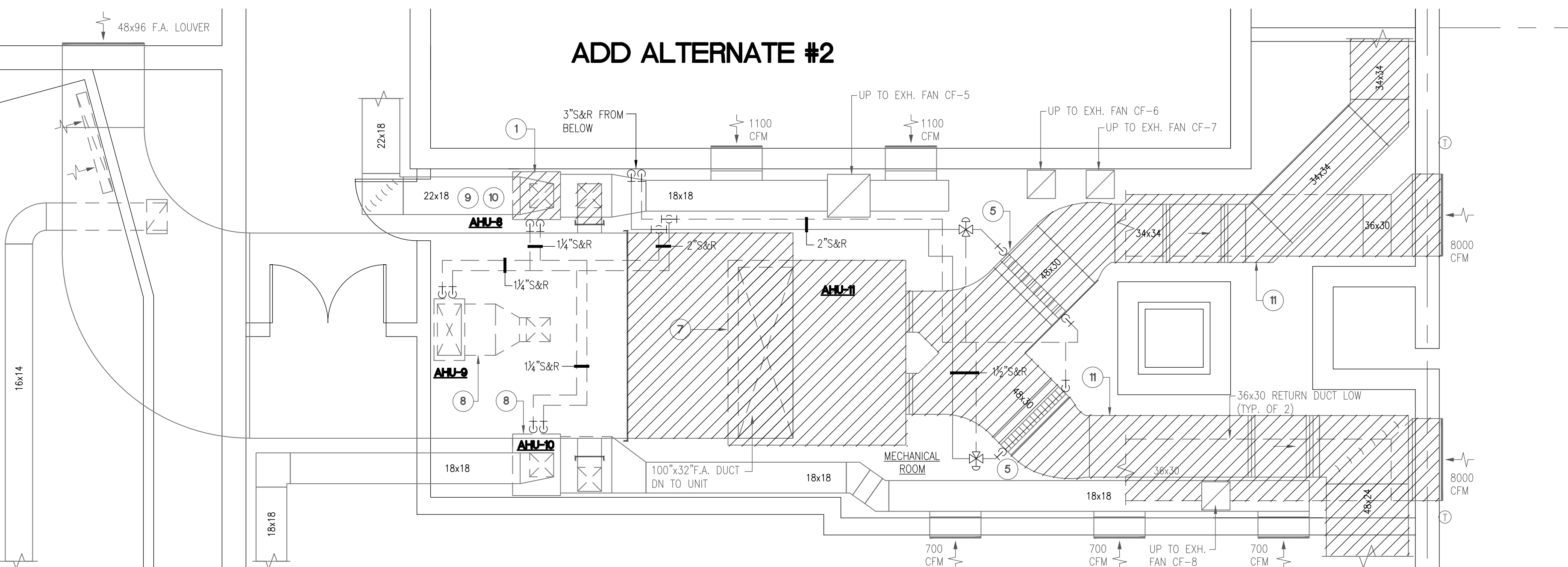
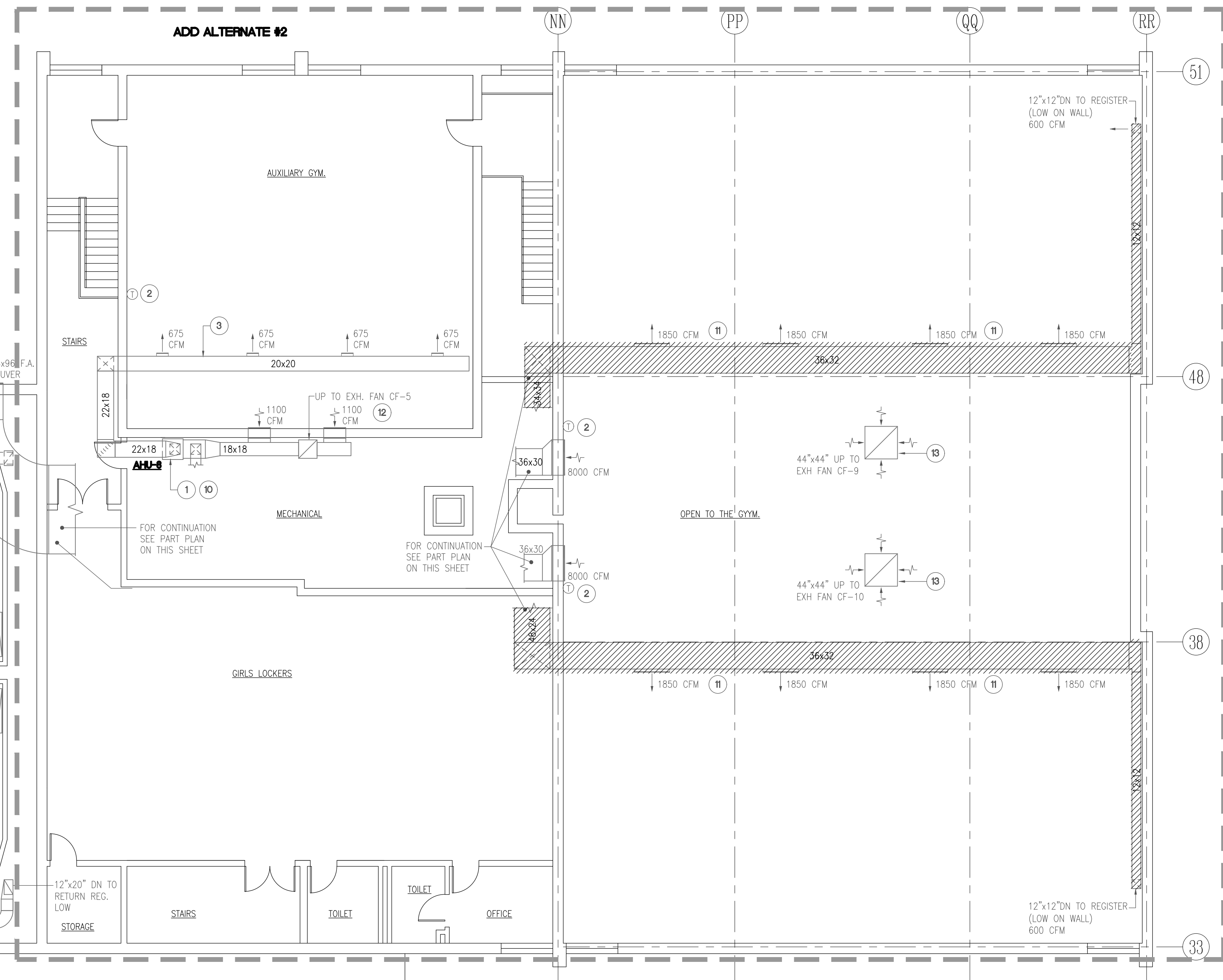
- 1 - PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. CONTRACTOR SHALL MEASURE, RECORD AND SUBMIT AIR AND WATER FLOWS PRIOR TO COMMENCING ANY DEMOLITION WORK. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
- 2 - THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
- 3 - COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER TO MINIMIZE INCONVENIENCE TO THE BUILDING OCCUPANTS. ALL SERVICES AND SYSTEMS SERVING OCCUPIED AREAS OF THE BUILDING SHALL BE MAINTAINED IN OPERATION DURING WORKING SHIFTS.
- 4 - CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING CONSTRUCTION.
- 5 - REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY.
- 6 - CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF EXISTING MECHANICAL EQUIPMENT IN CONTRACT AREA.



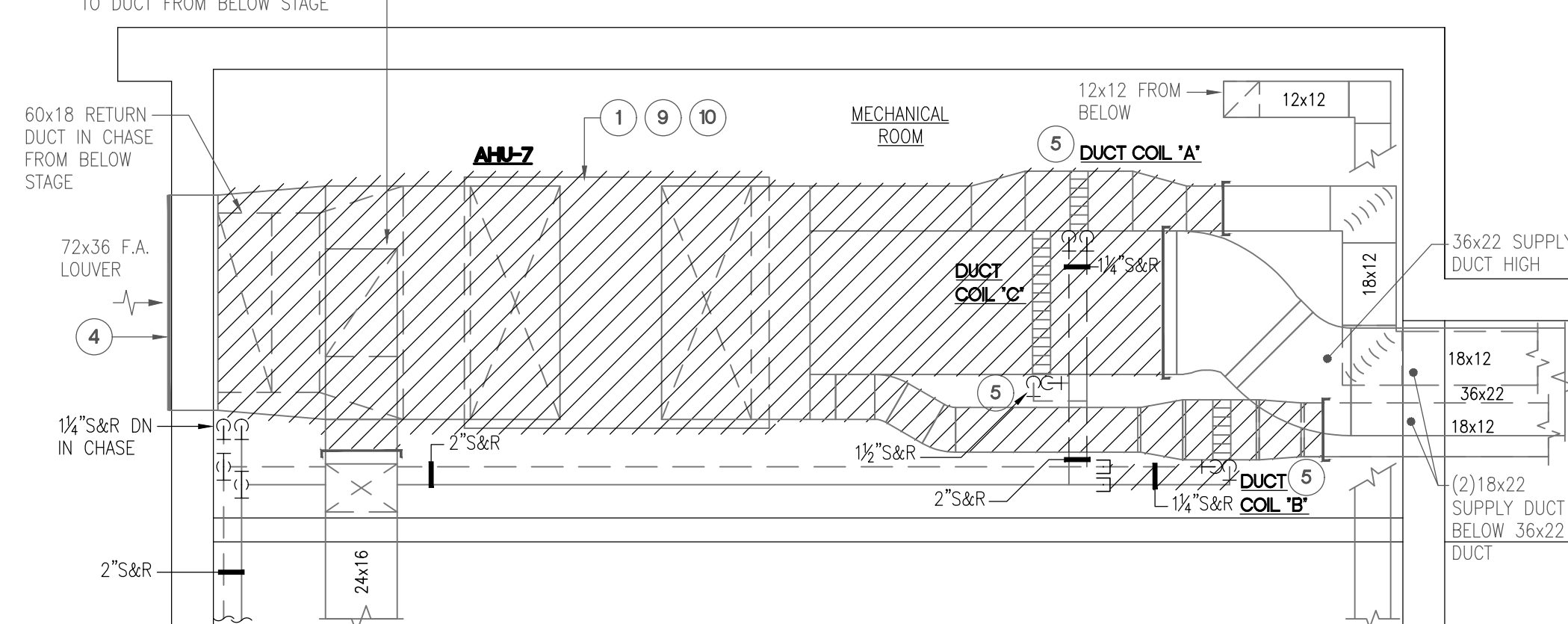
2nd FLOOR PLAN SECTION "C" - MECHANICAL DEMOLITION  
SCALE: 1/8"=1'-0"



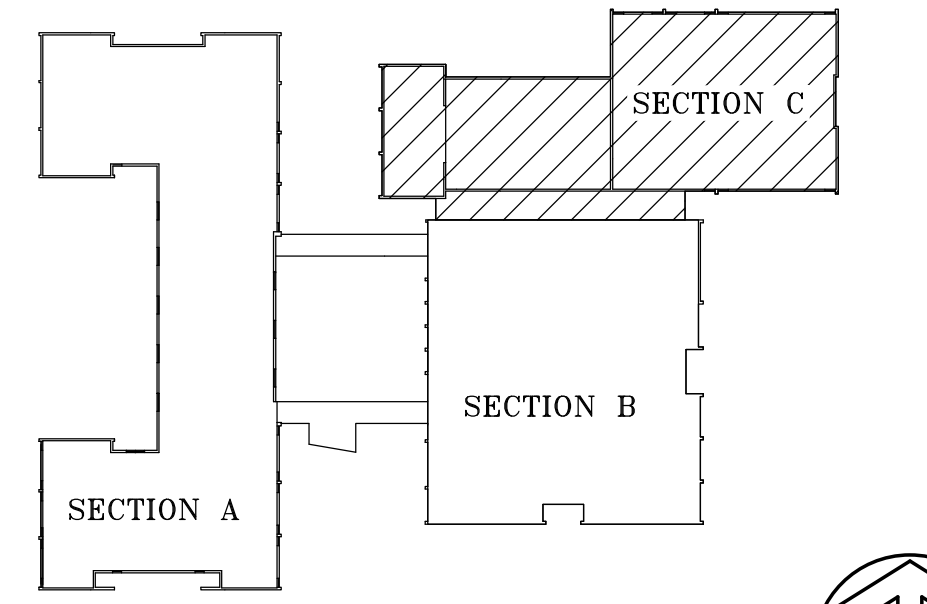
1st FLOOR PLAN SECTION "C" - MECHANICAL DEMOLITION  
SCALE: 1/8"=1'-0"



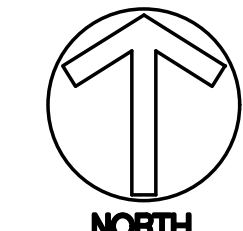
Mechanical Room Part Plan-SECTION "C" 2nd FLOOR DEMOLITION  
SCALE: 1/4"=1'-0"



Mechanical Room Part Plan-SECTION "C" 2nd FLOOR DEMOLITION  
SCALE: 1/4"=1'-0"

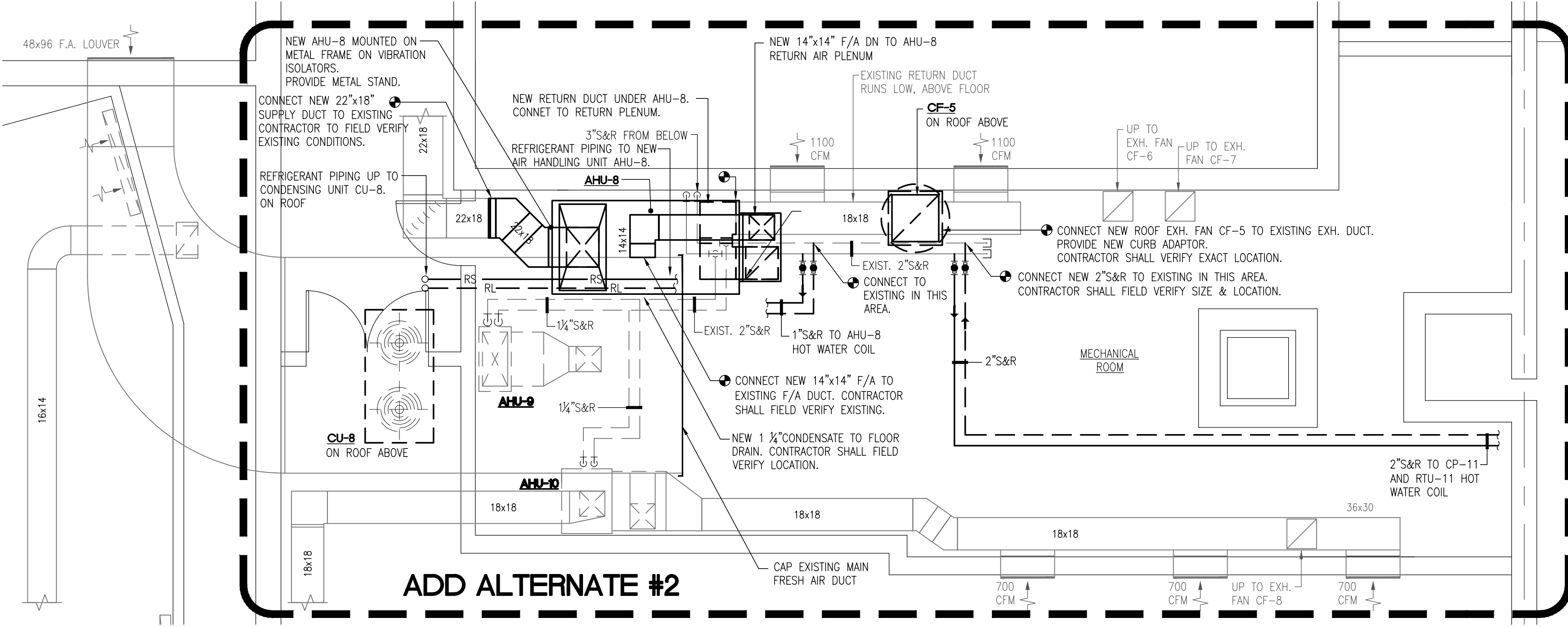


KEY PLAN  
NO SCALE



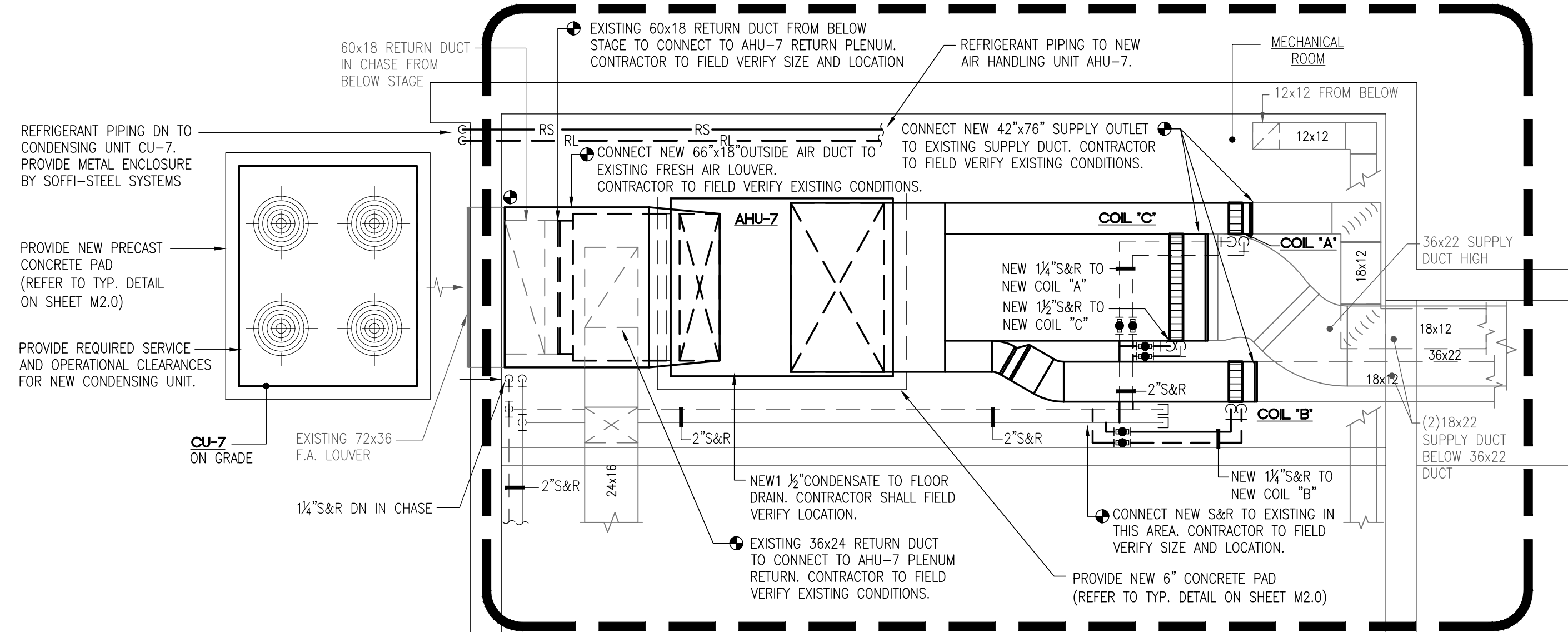
**COPYRIGHT**  
This drawing is the intellectual property of Bemis Associates, L.L.C. and shall remain the property of Bemis Associates, L.L.C. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written approval of Bemis Associates, L.L.C.  
Bemis Associates, L.L.C. is an Equal Opportunity Employer. Minorities and women are encouraged to apply. The undersigned hereby certifies that the preparation of this drawing was done by a duly licensed professional engineer in the State of Connecticut. The undersigned is a duly licensed professional engineer in the State of Connecticut. The undersigned is a duly licensed professional engineer in the State of Connecticut. The undersigned is a duly licensed professional engineer in the State of Connecticut.



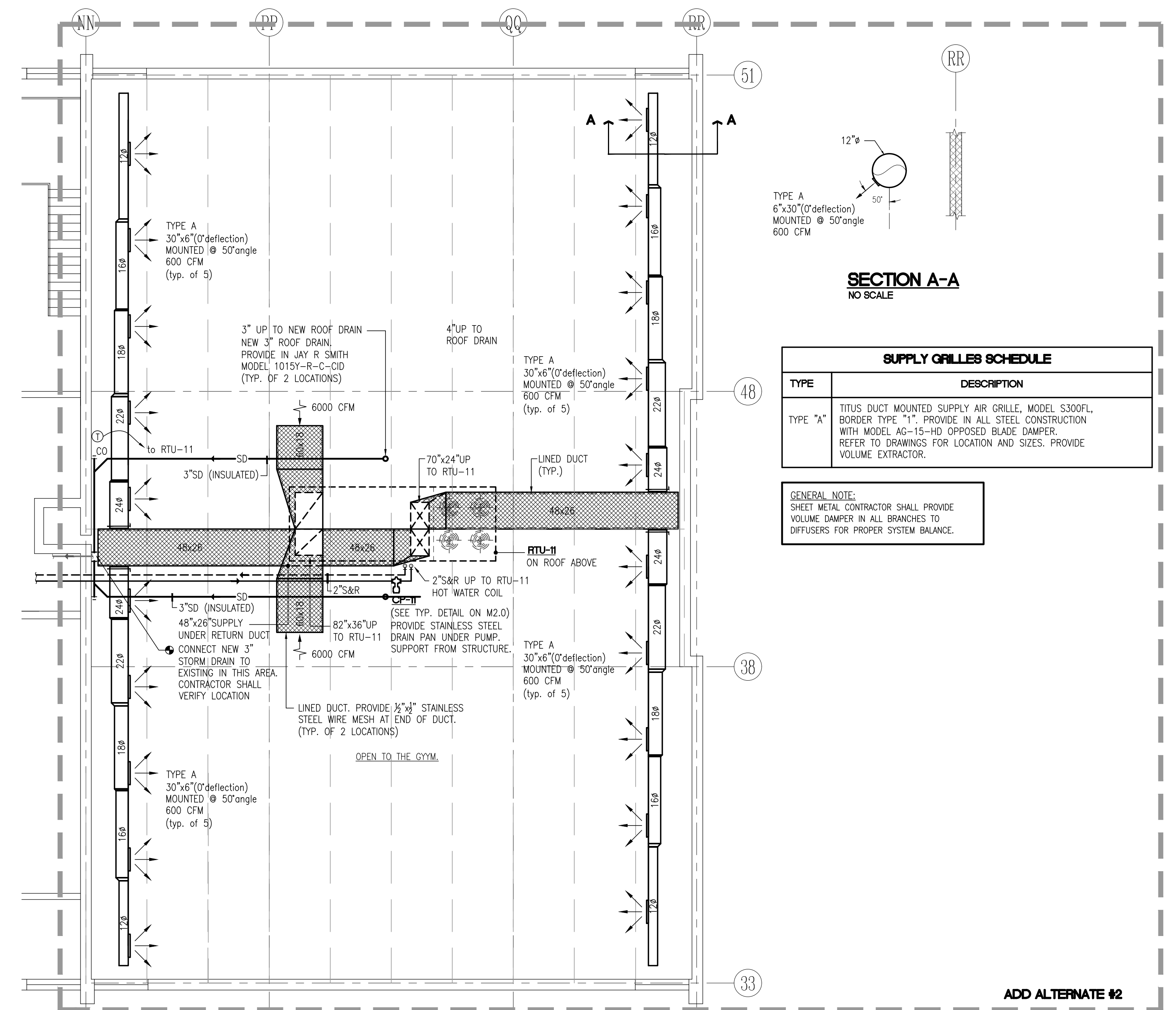


ADD ALTERNATE #2

Mechanical Room Part Plan-SECTION 'C' 2nd FLOOR NEW WORK  
SCALE: 1/4"=1'-0"



Mechanical Room Part Plan-SECTION 'C' 2nd FLOOR NEW WORK  
SCALE: 1/4"=1'-0"



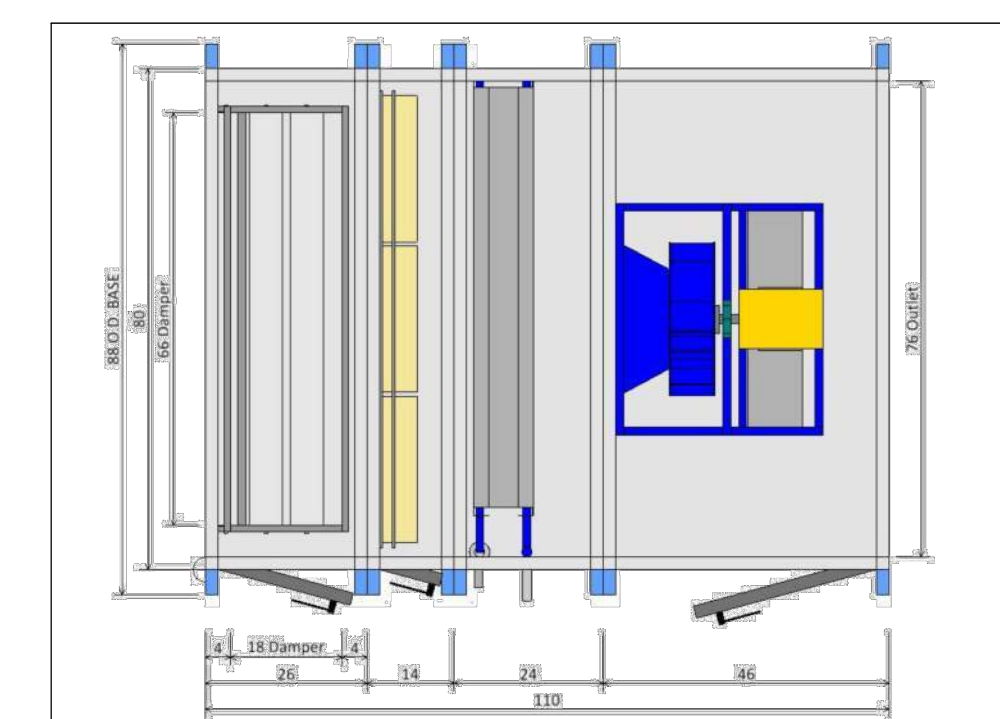
SECTION A-A  
NO SCALE

SUPPLY GRILLES SCHEDULE	
TYPE	DESCRIPTION
TYPE 'A'	TITUS DUCT MOUNTED SUPPLY AIR GRILLE, MODEL S300FL, BORDER TYPE 'T'. PROVIDE IN ALL STEEL CONSTRUCTION WITH MODEL 46-15-HD OPPOSED BLADE DAMPER. REFER TO DRAWINGS FOR LOCATION AND SIZES. PROVIDE VOLUME EXTRACTOR.

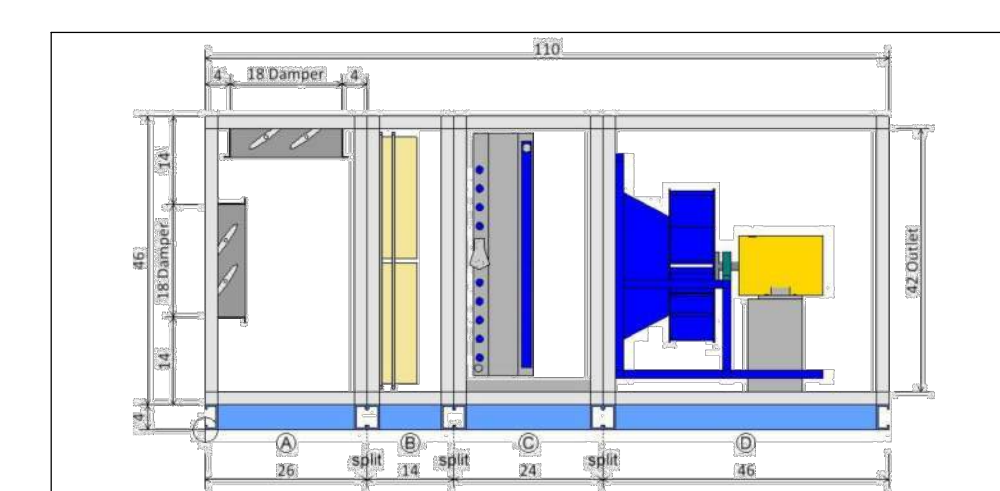
GENERAL NOTE:  
SHEET METAL CONTRACTOR SHALL PROVIDE VOLUME DAMPER IN ALL BRANCHES TO DIFFUSERS FOR PROPER SYSTEM BALANCE.

ADD ALTERNATE #2

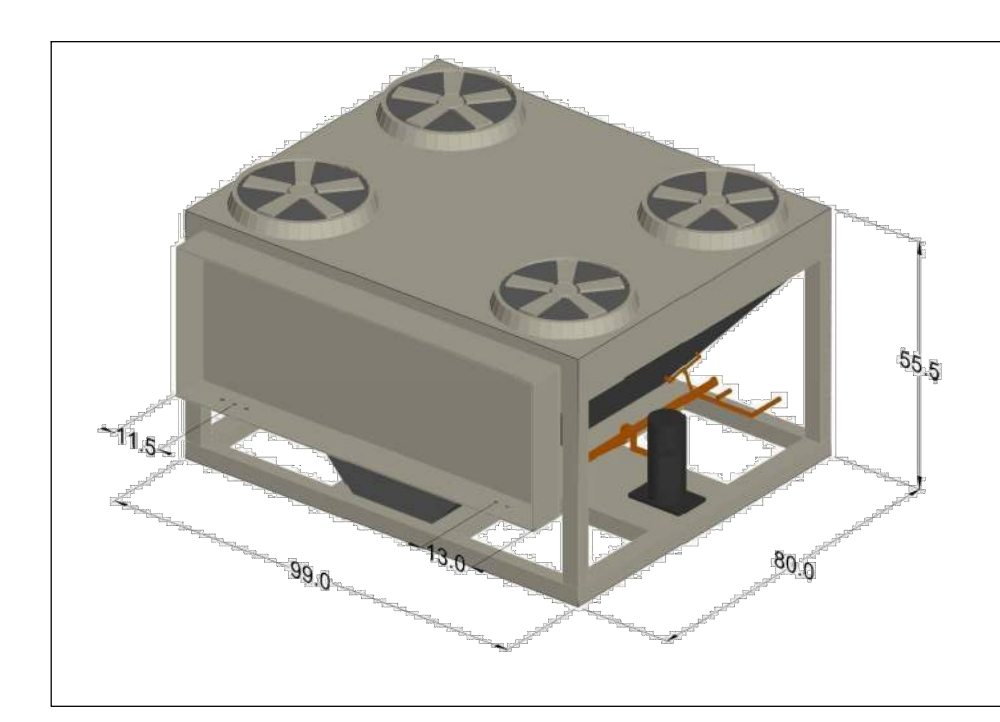
2nd FLOOR PLAN SECTION 'C' - MECHANICAL NEW WORK  
SCALE: 1/8"=1'-0"



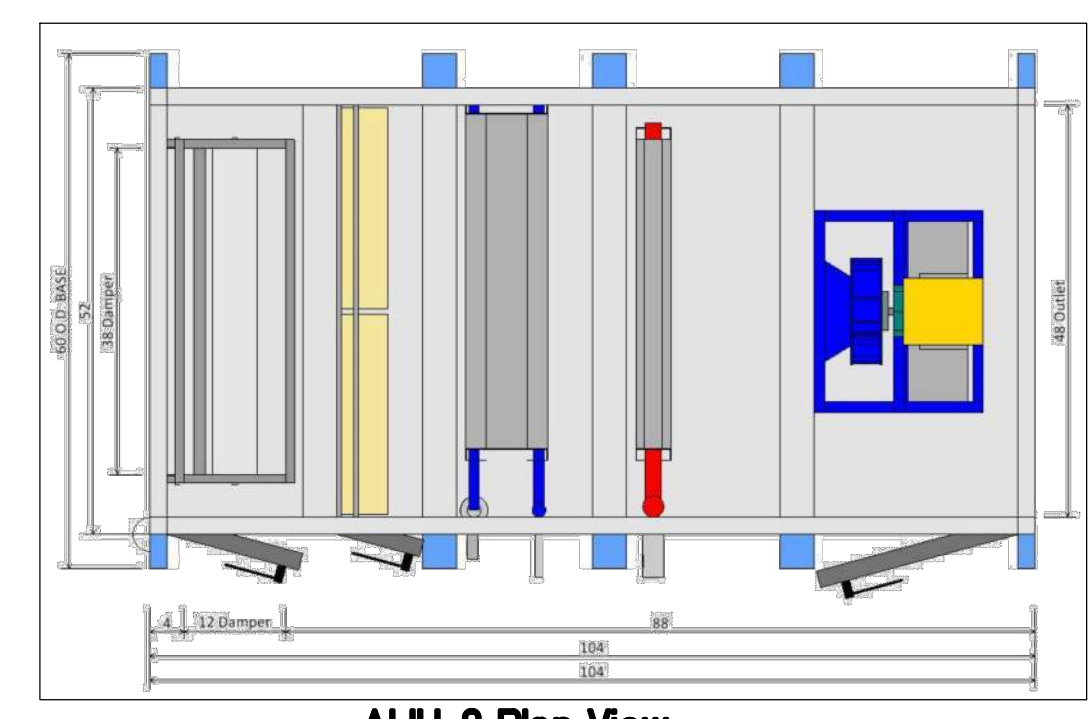
AHU-7 Plan View  
NO SCALE



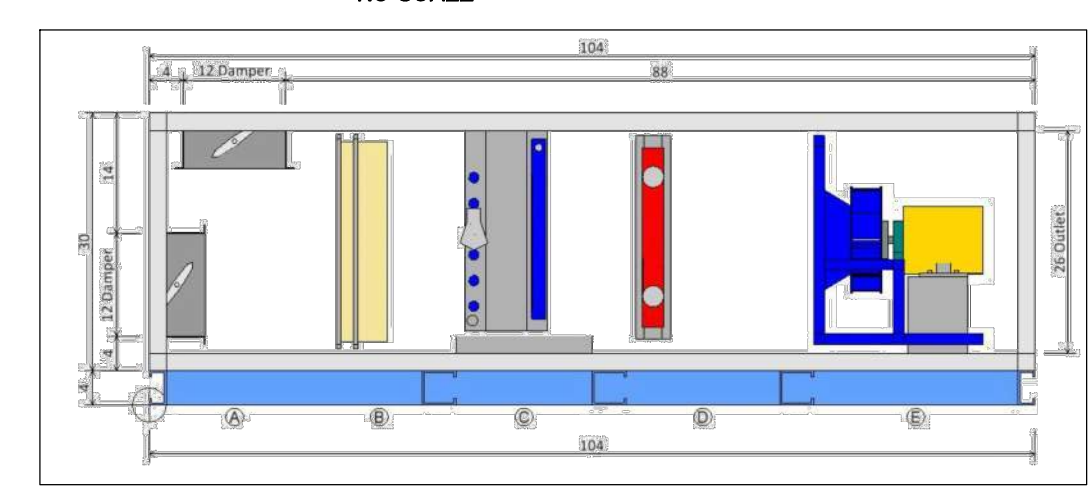
AHU-7 Elevation View  
NO SCALE



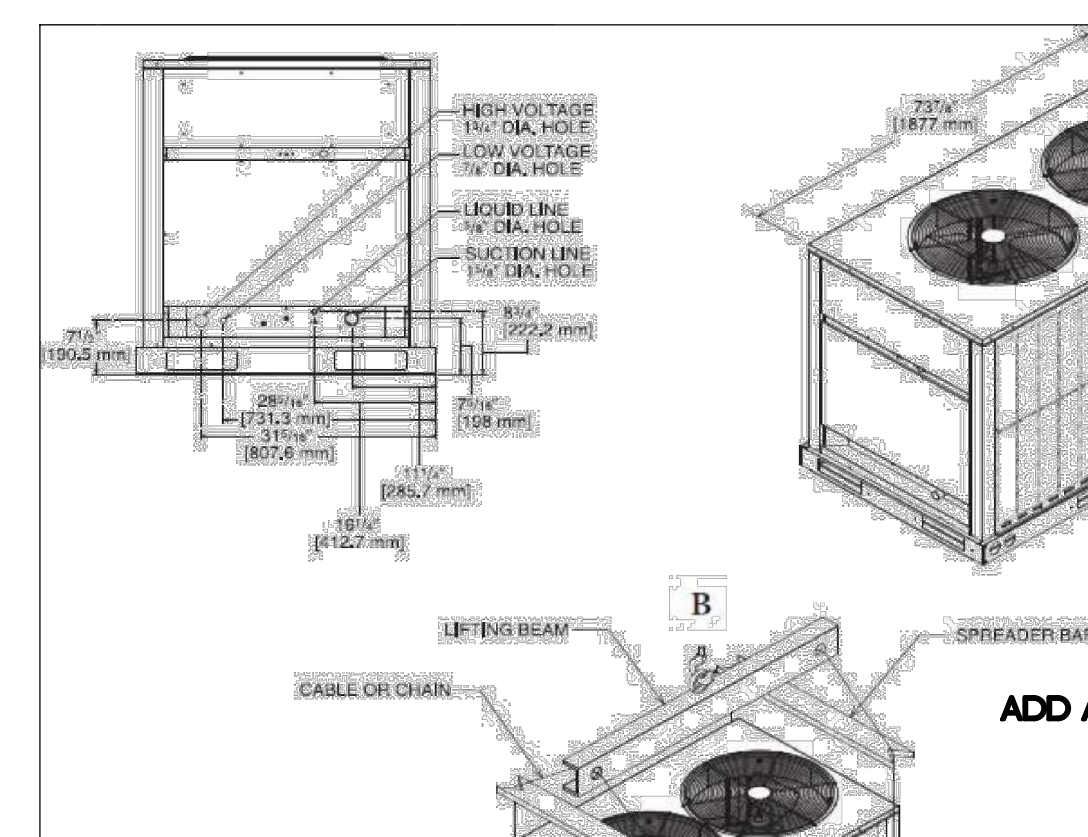
CU-7  
NO SCALE



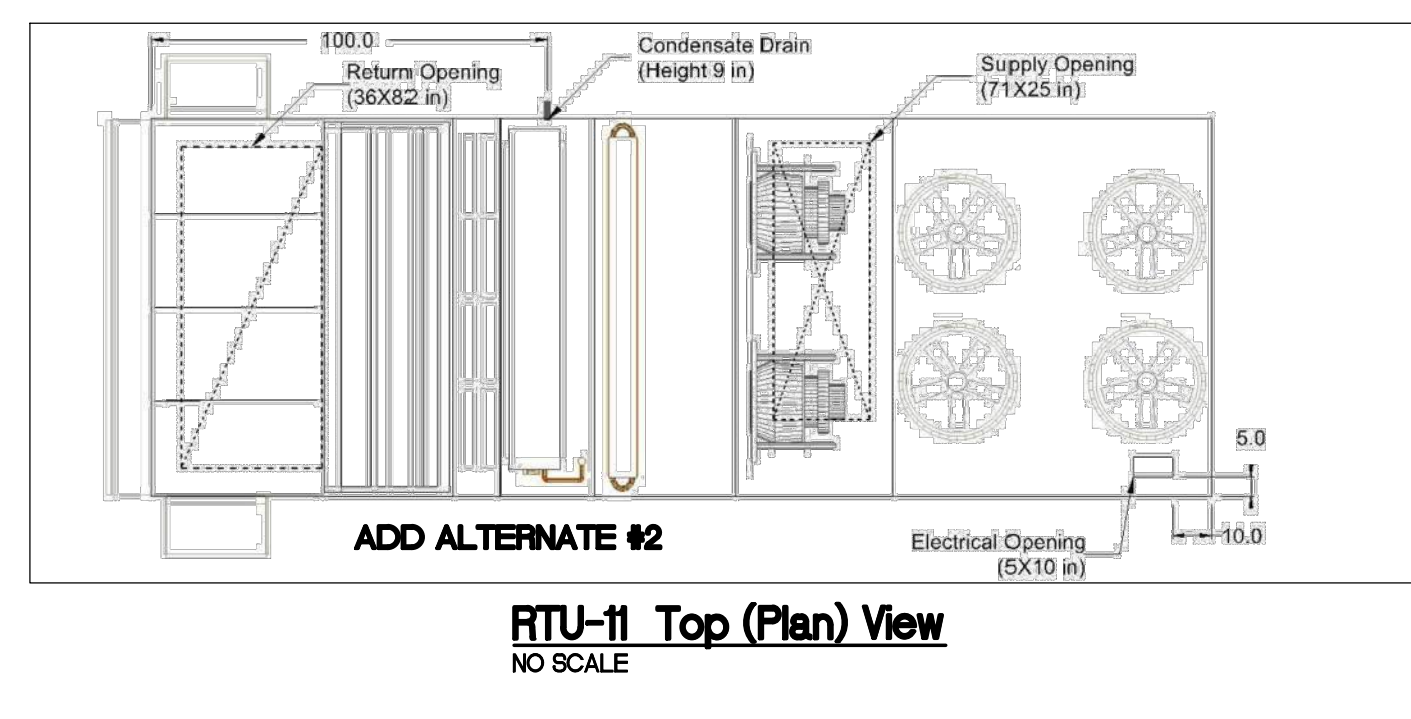
AHU-8 Plan View  
NO SCALE



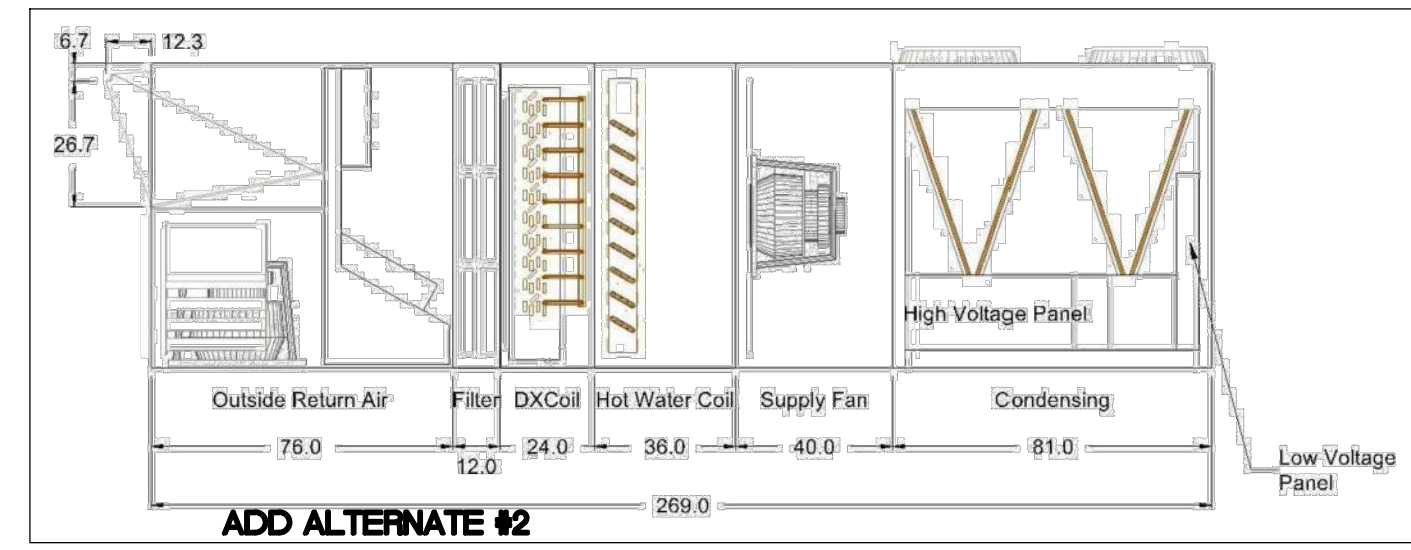
AHU-8 Elevation View  
NO SCALE



CU-8  
NO SCALE



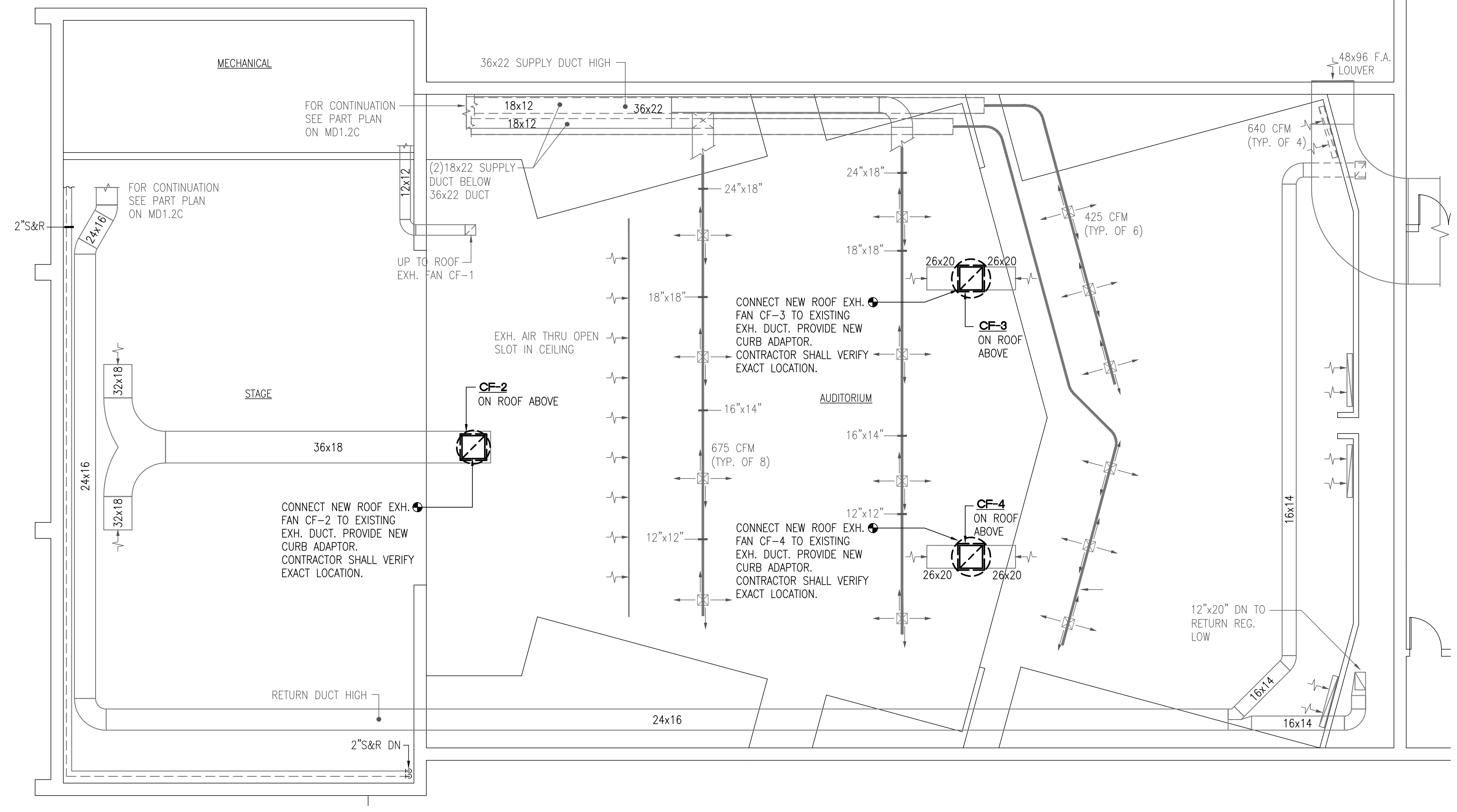
RTU-11 Top (Plan) View  
NO SCALE



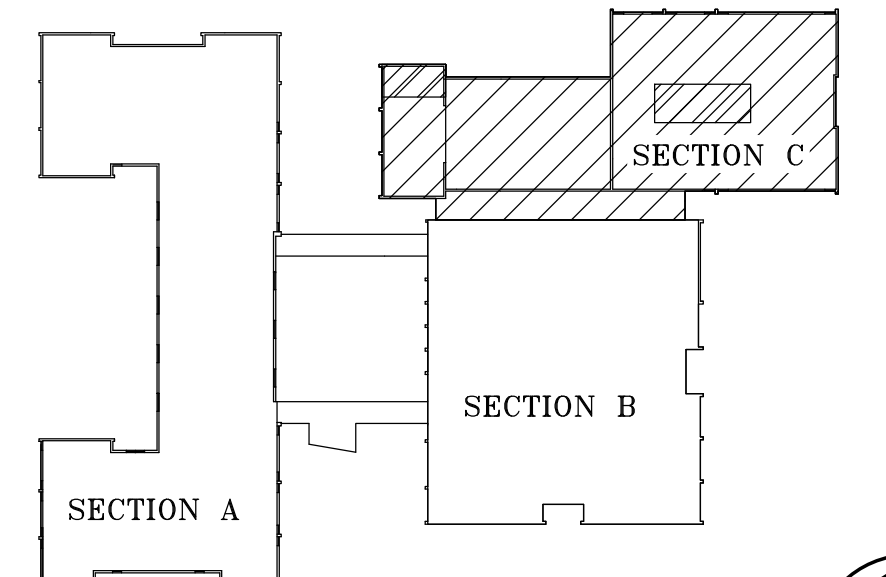
RTU-11 Right Elevation View  
NO SCALE

**MECHANICAL - GENERAL NOTES**

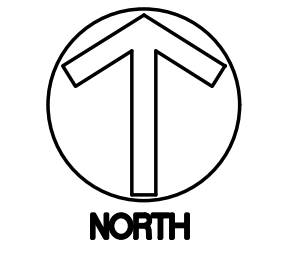
- DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, NOT EXACT EQUIPMENT LOCATION. ALL CONTRACTORS MUST COORDINATE EQUIPMENT LOCATIONS WITH OTHER TRADES BEFORE WORK BEGINS. DUCT PENETRATIONS AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH FIELD CONDITIONS.
- THE CONTRACTOR SHALL COORDINATE THE ROUTING AND INSTALLATION OF ALL SYSTEMS TO AVOID CONFLICTS.
- THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM/HERSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING THE CONSTRUCTION.
- THE EXISTING SUPPLY, RETURN AND EXHAUST AIR SYSTEMS SHALL BE PURGED TO ENSURE ALL FOREIGN PARTICLES ARE REMOVED PRIOR TO THE FINAL CONNECTION TO AIR TERMINAL DEVICES. PROVIDE REPORT FOR THE RECORD.
- ALL DUCTWORK ELBOWS ARE TO BE FULL RADIUS OR SQUARED WITH DOUBLE THICKNESS TURNING VANES.
- INSTALL PIPES IN SUCH A WAY THAT WILL ALLOW EASY ACCESS TO VALVES. IN GENERAL, PIPES SHALL RUN BELOW DUCTS. ALL BRANCH CONNECTIONS SHALL BE MADE FROM THE BOTTOM OR 45 DEG. FROM THE BOTTOM OF MAINS.
- INSTALL UNITS WITH CLEARANCE FOR SERVICE.
- ALL CONNECTIONS TO EQUIPMENT SHALL BE FLEX TYPE.
- RECONNECT NEW EQUIPMENT TO EXISTING HOT WATER SUPPLY AND RETURN PIPING AND DUCTWORK. REPAIR DAMAGED INSULATION. PIPE CONDENSATE TO OUTSIDE. ELBOW PIPE DOWN. END OF PIPE SHALL BE TAPERED.
- CONTRACTOR SHALL FIELD VERIFY PIPE AND DUCT SIZES AND LOCATION. CONNECT TO EXISTING.



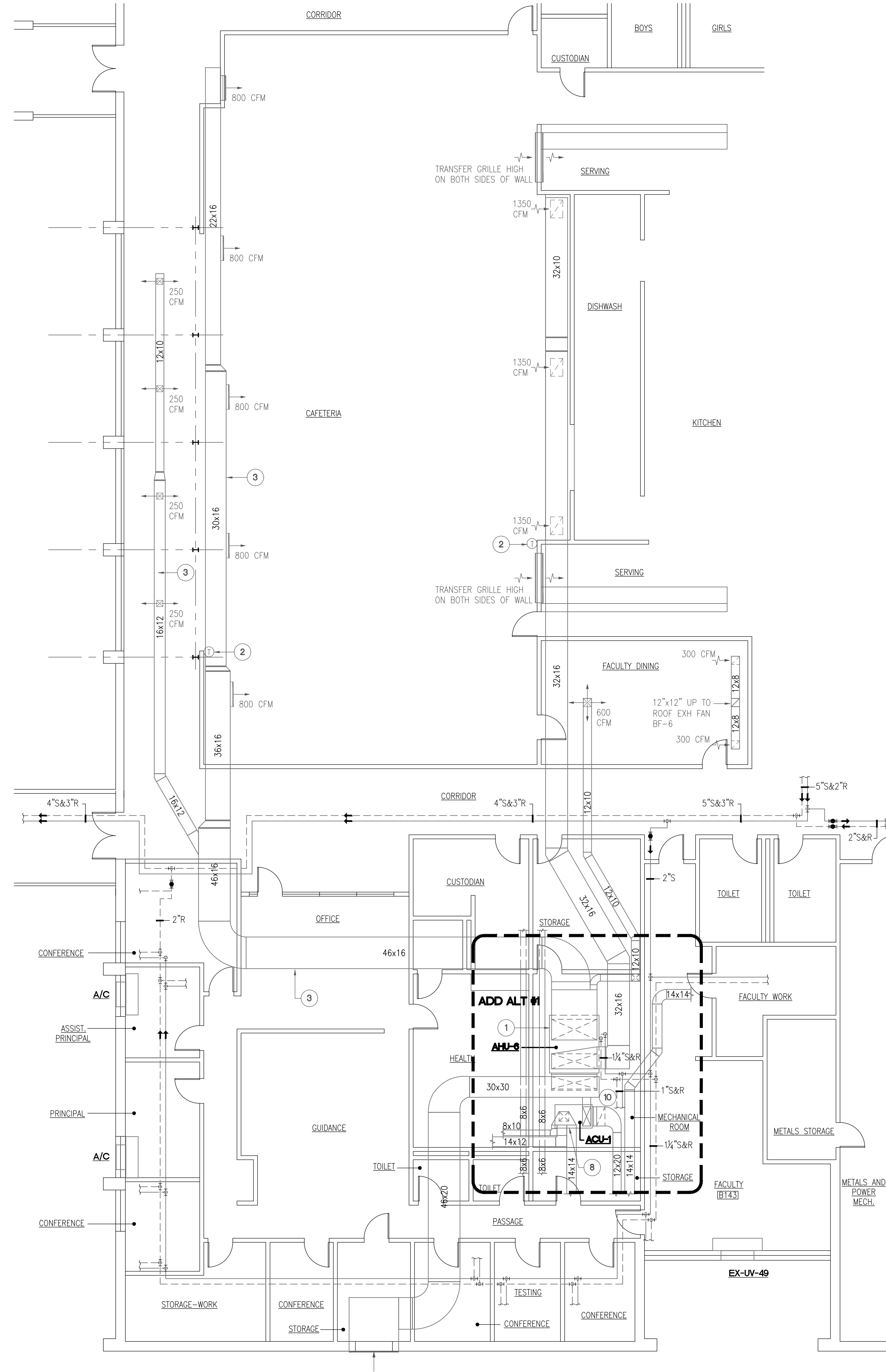
2nd FLOOR PLAN SECTION 'C' - MECHANICAL NEW WORK  
SCALE: 1/8"=1'-0"



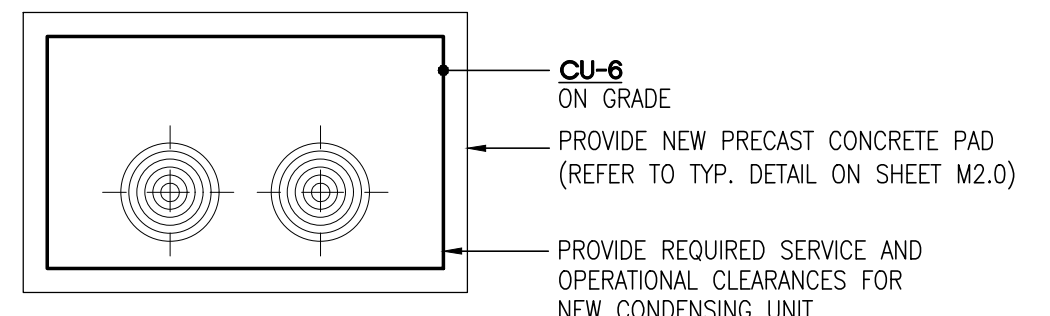
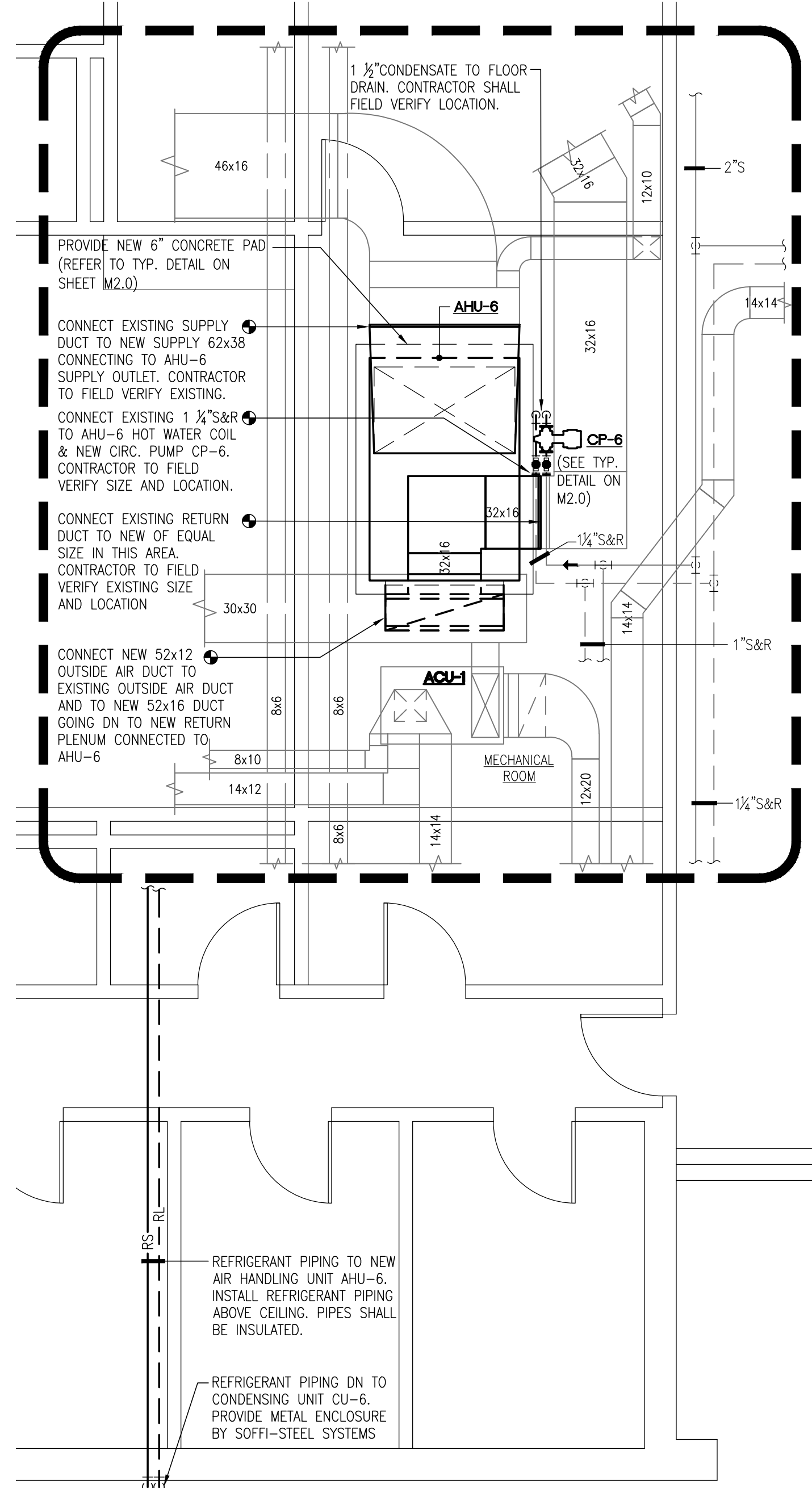
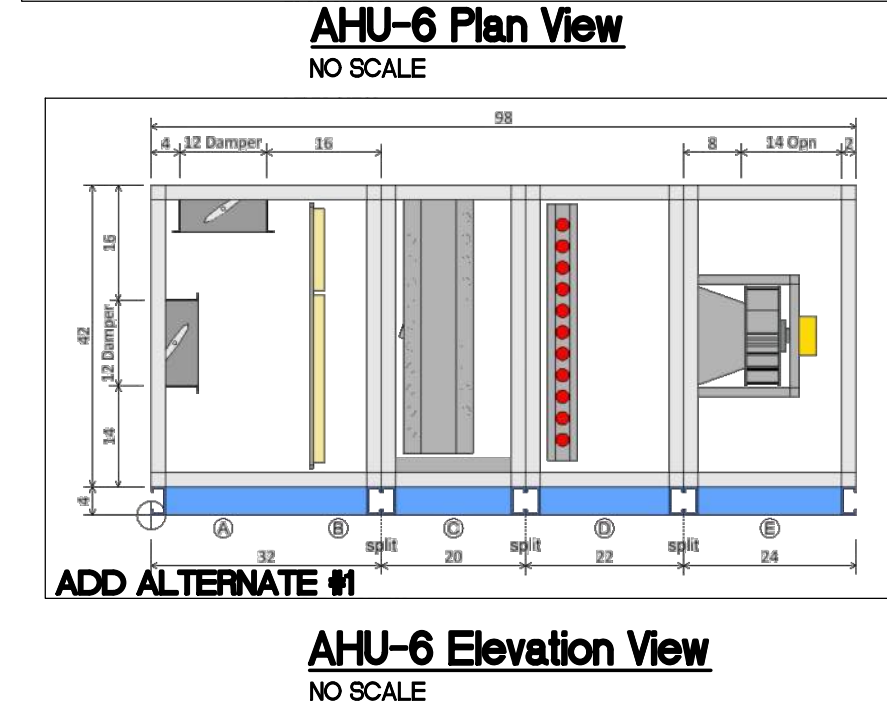
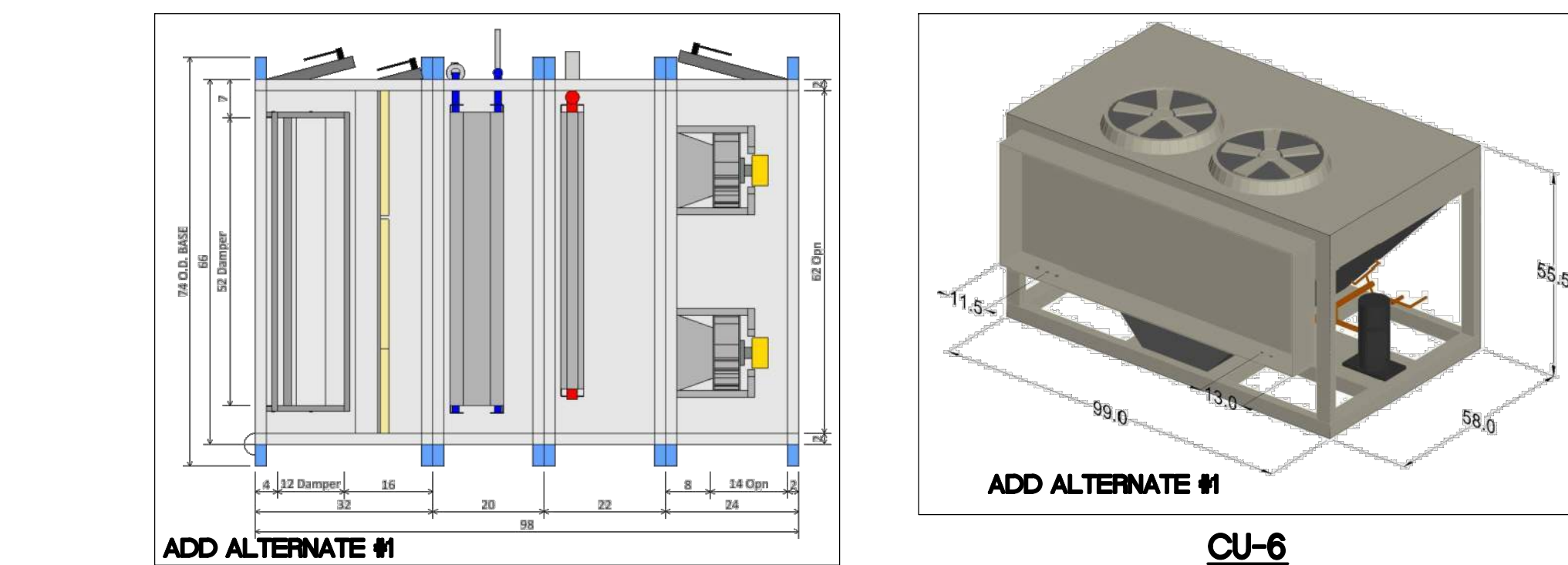
KEY PLAN  
NO SCALE







1st FLOOR PART PLAN SECTION "B" - MECHANICAL DEMOLITION  
SCALE: 1/8"-1'-0"



Mechanical Room Part Plan NEW WORK  
SCALE: 1/4"-1'-0"

- GENERAL DEMOLITION NOTES**
- 1 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL, SEWER, WATER, GAS, TELEPHONE, ETC. THE DRAWINGS SHOW DIAGRAMMATICALLY THE APPROXIMATE LOCATION OF UTILITIES WHERE INFORMATION IS AVAILABLE BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL PHASES OF THE WORK TO LOCATE, IDENTIFY, AND PROTECT EXISTING UTILITIES. THE CONTRACTOR SHALL RECORD RECORD LOCATION OF ANY REPAIR DAMAGE TO EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT.
  - 2 - ANY EQUIPMENT REMOVED DURING DEMOLITION WORK MAY BE RETAINED BY THE OWNER AT HIS OPTION. ANY SUCH MATERIAL SHALL BE STORED IN THE BUILDING AT A LOCATION DESIGNATED BY THE OWNER. REMOVAL OF SUCH MATERIAL FROM THE JOB SITE SHALL BE THE OWNER'S RESPONSIBILITY.
  - 3 - CONTRACTOR SHALL MEASURE AND RECORD EXISTING WATER AND AIR FLOWS, INCLUDING PRESSURE DROP PRIOR TO ANY DEMOLITION. MEASUREMENTS SHALL BE TAKEN AT EACH PIECE OF EQUIPMENT THAT IS INCLUDED IN THE SCOPE OF WORK.
  - 4 - THIS CONTRACTOR IS RESPONSIBLE FOR PROTECTION EXISTING FINISHES AND EQUIPMENT DURING CONSTRUCTION.

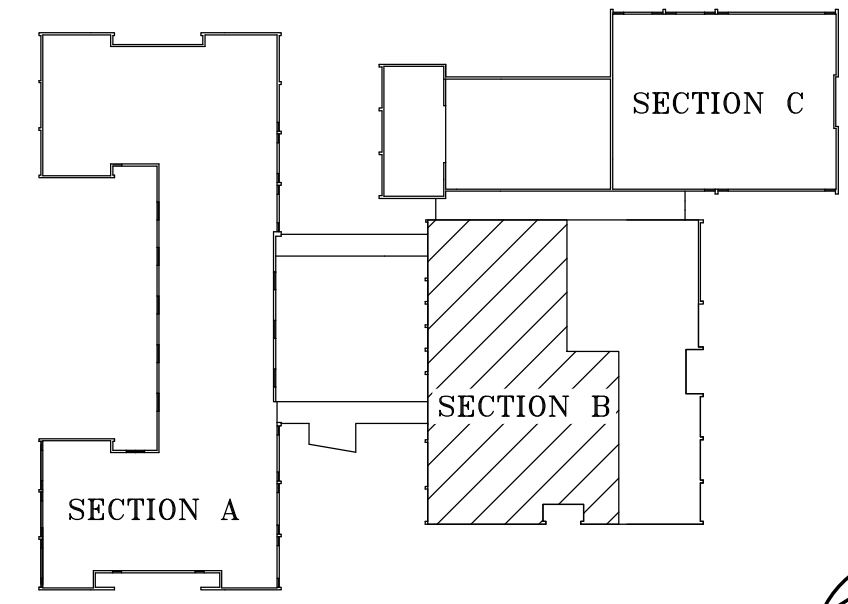
- MECHANICAL DEMOLITION WORK NOTES**
- 1 - PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. CONTRACTOR SHALL MEASURE, RECORD AND SUBMIT AIR AND WATER FLOWS PRIOR TO COMMENCING ANY DEMOLITION WORK. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
  - 2 - THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
  - 3 - COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER TO MINIMIZE INCONVENIENCE TO THE BUILDING OCCUPANTS. ALL SERVICES AND SYSTEMS SERVING OCCUPIED AREAS OF THE BUILDING SHALL BE MAINTAINED IN OPERATION DURING WORKING SHIFTS.
  - 4 - CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING CONSTRUCTION.
  - 5 - REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY.
  - 6 - CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF EXISTING MECHANICAL EQUIPMENT IN CONTRACT AREA.

**- MECHANICAL / ELECTRICAL DEMOLITION WORK SYMBOLS -**

**KEY NOTES DESCRIBE IN GENERAL THE SCOPE OF EQUIPMENT REMOVED. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH NEW WORK PLANS PRIOR TO REMOVING THE ITEM.**

TAG	ACTION
①	EXISTING AIR HANDLING UNIT AND ASSOCIATED HOT WATER PIPING AND VALVES SHALL BE REMOVED. CAP REMAINING FOR FUTURE CONNECTION.
②	EXISTING THERMOSTAT SHALL BE REMOVED. PATCH TO MATCH AND PAINT TO MATCH WALL.
③	REMOVE AND REPLACE ALL EXISTING DUCT INSULATION ASSOCIATED WITH THE AIR HANDLING UNIT BEING REPLACED. CLEAN, DISINFECT AND SEAL REMAINING DUCTS.
④	EXISTING LOUVER AND DUCT SHALL BE TEMPORARILY REMOVED AND REINSTALLED TO ALLOW FOR NEW UNIT INSTALLATION.
⑤	EXISTING DUCT MOUNTED COIL, PIPING, ACCESSORIES AND CONTROLS SHALL BE REMOVED CAP REMAINING FOR FUTURE CONNECTION.
⑥	EXISTING FIN-TUBE RADIATION SHALL REMAIN. CLEAN AND DISINFECT FINS.
⑦	EXISTING AIR HANDLING UNIT AND ASSOCIATED SUPPLY AND RETURN DUCTWORK, INSULATION, HOT WATER REHEAT PIPING, VALVES AND CONTROLS SHALL BE REMOVED. CAP AND SEAL REMAINING PIPES AT MAIN. PATCH TO MATCH AND PAINT DUCT OPENINGS THROUGH THE GYM WALL.
⑧	EXISTING AIR HANDLING UNIT SHALL REMAIN.
⑨	REMOVE AND REPLACE ALL THE EXISTING PIPE INSULATION ASSOCIATED WITH THE AIR HANDLING UNIT THAT IS BEING REPLACED.
⑩	REMOVE ALL THE EXISTING MOTORIZED DAMPERS AND DAMPER ACTUATORS ASSOCIATED WITH THE AIR HANDLING UNIT THAT IS BEING REPLACED.
⑪	EXISTING DUCTWORK SHALL BE REMOVED. PATCH TO MATCH REMAINING.
⑫	EXISTING FAN SHALL BE REPLACED IN KIND. PROVIDE CURB ADAPTOR. FAN SHALL BE INTERLOCKED WITH NEW AIR HANDLING UNIT SERVING THE AUDITORIUM.
⑬	EXISTING EXHAUST FAN SHALL BE REMOVED. PATCH TO MATCH ROOF AND MAKE SAFE.

- MECHANICAL - GENERAL NOTES**
1. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, NOT EXACT EQUIPMENT LOCATION. ALL CONTRACTORS MUST COORDINATE EQUIPMENT LOCATIONS WITH OTHER TRADES BEFORE WORK BEGINS. DUCT PENETRATIONS AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH FIELD CONDITIONS.
  2. THE CONTRACTOR SHALL COORDINATE THE ROUTING AND INSTALLATION OF ALL SYSTEMS TO AVOID CONFLICTS.
  3. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM/HER SELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING THE CONSTRUCTION.
  5. THE EXISTING SUPPLY, RETURN AND EXHAUST AIR SYSTEMS SHALL BE PURGED TO ENSURE ALL FOREIGN PARTICLES ARE REMOVED PRIOR TO THE FINAL CONNECTION TO AIR TERMINAL DEVICES. PROVIDE REPORT FOR THE RECORD.
  6. ALL DUCTWORK ELBOWS ARE TO BE FULL RADIUS OR SQUARED WITH DOUBLE THICKNESS TURNING VANES.
  7. INSTALL PIPES IN SUCH A WAY THAT WILL ALLOW EASY ACCESS TO VALVES. IN GENERAL, PIPES SHALL RUN BELOW DUCTS. ALL BRANCH CONNECTIONS SHALL BE MADE FROM THE BOTTOM OR 45 DEG. FROM THE BOTTOM OF MAINS.
  8. INSTALL UNITS WITH CLEARANCE FOR SERVICE.
  9. ALL CONNECTIONS TO EQUIPMENT SHALL BE FLEX TYPE.
  10. RECONNECT NEW EQUIPMENT TO EXISTING HOT WATER SUPPLY AND RETURN PIPING AND DUCTWORK. REPAIR DAMAGED INSULATION. PIPE CONDENSATE TO OUTSIDE. ELBOW PIPE DOWN. END OF PIPE SHALL BE TAPERED.
  11. CONTRACTOR SHALL FIELD VERIFY PIPE AND DUCT SIZES AND LOCATION. CONNECT TO EXISTING.



REVISIONS

**GIDEON WELLES MIDDLE SCHOOL  
AIR HANDLING UNIT REPLACEMENT**

GLASTONBURY, CONNECTICUT

---

**BEMIS ASSOCIATES, L.L.C.**  
Consulting Engineers

185 Main Street  
Farmington, CT 06032  
Tel: (860) 351-2070  
Fax: (860) 351-2070  
www.bemisassociates.com

**BA**

---

TITLE  
1st FLOOR PART PLAN  
SECTION B  
MECHANICAL  
DEMOLITION AND NEW  
WORK

DATE 07/28/2023

---

DWG. NO.  
**M1.2**



AIR HANDLING UNIT SCHEDULE table with columns for Unit No., Unit Location, Area Served, MANUF., MODEL, UNIT CONFG., and various performance metrics like Air Pressure drop, Capacity, and Motor Data.

AHU-6 SOUND POWER DATA (dB) table with columns for Type, Frequency (63 Hz to 8000 Hz), and Radiated/Unit Discharge/Unit Return values.

AHU-7 SOUND POWER DATA (dB) table with columns for Type, Frequency (63 Hz to 8000 Hz), and Radiated/Unit Discharge/Unit Return values.

AHU-8 SOUND POWER DATA (dB) table with columns for Type, Frequency (63 Hz to 8000 Hz), and Radiated/Unit Discharge/Unit Return values.

- NOTES: 1. OUTER PANEL - 24 GAUGE G90 GALVANIZED STEEL (unpainted). 2. UNIT LINER - 24 GAUGE GALVANIZED STEEL (unless noted per section). 3. UNIT INSULATION - R13 INJECTED FOAM.

DUCT MOUNTED HEATING COIL SCHEDULE table with columns for MARK, AREA SERVED, Air Volume (cfm), Total Capacity (MBH), EWT, LWT, and Face Velocity.

- REMARKS: 1. SEISMICALLY SUPPORT ACCORDING TO MANUFACTURER RECOMMENDATIONS

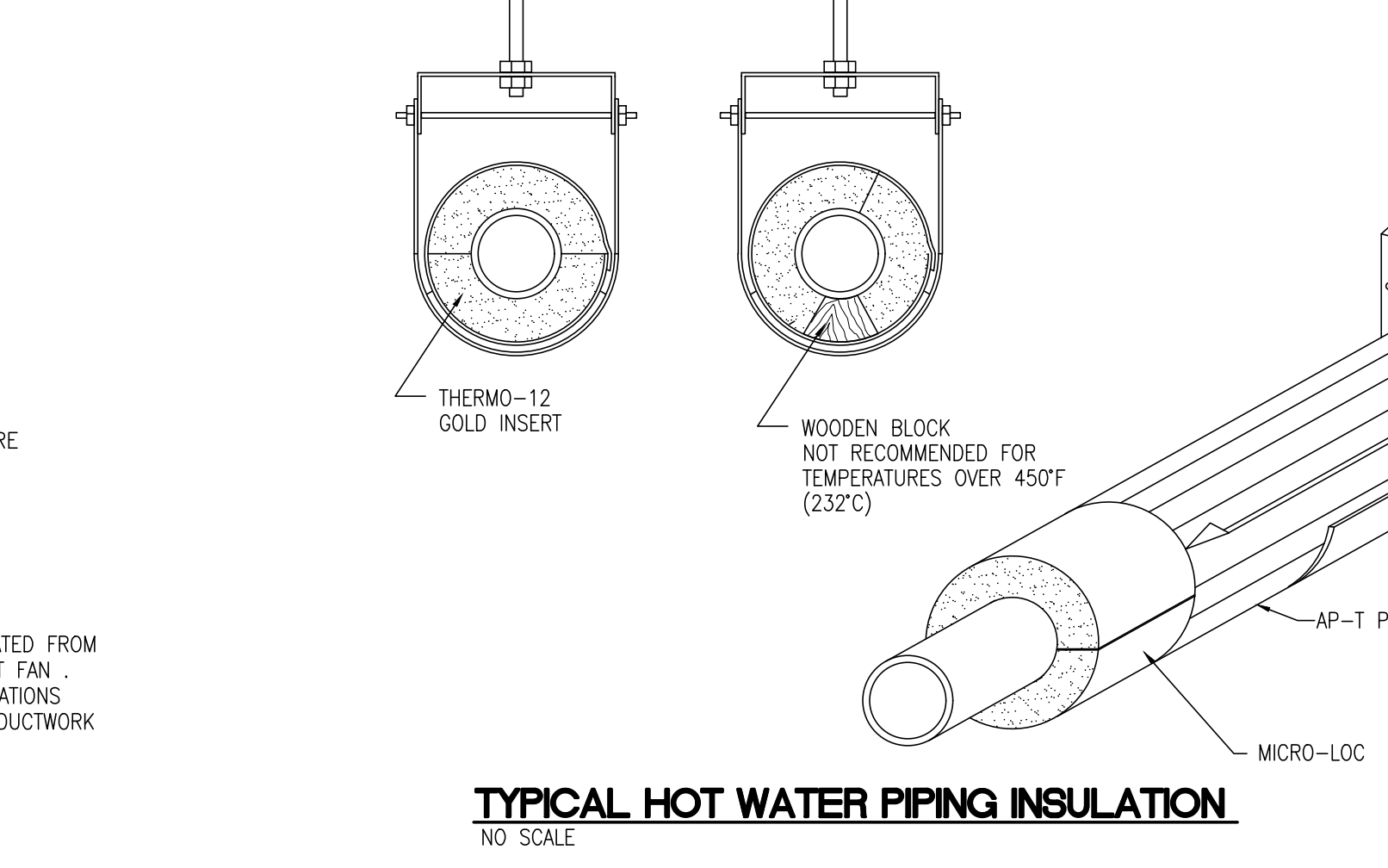
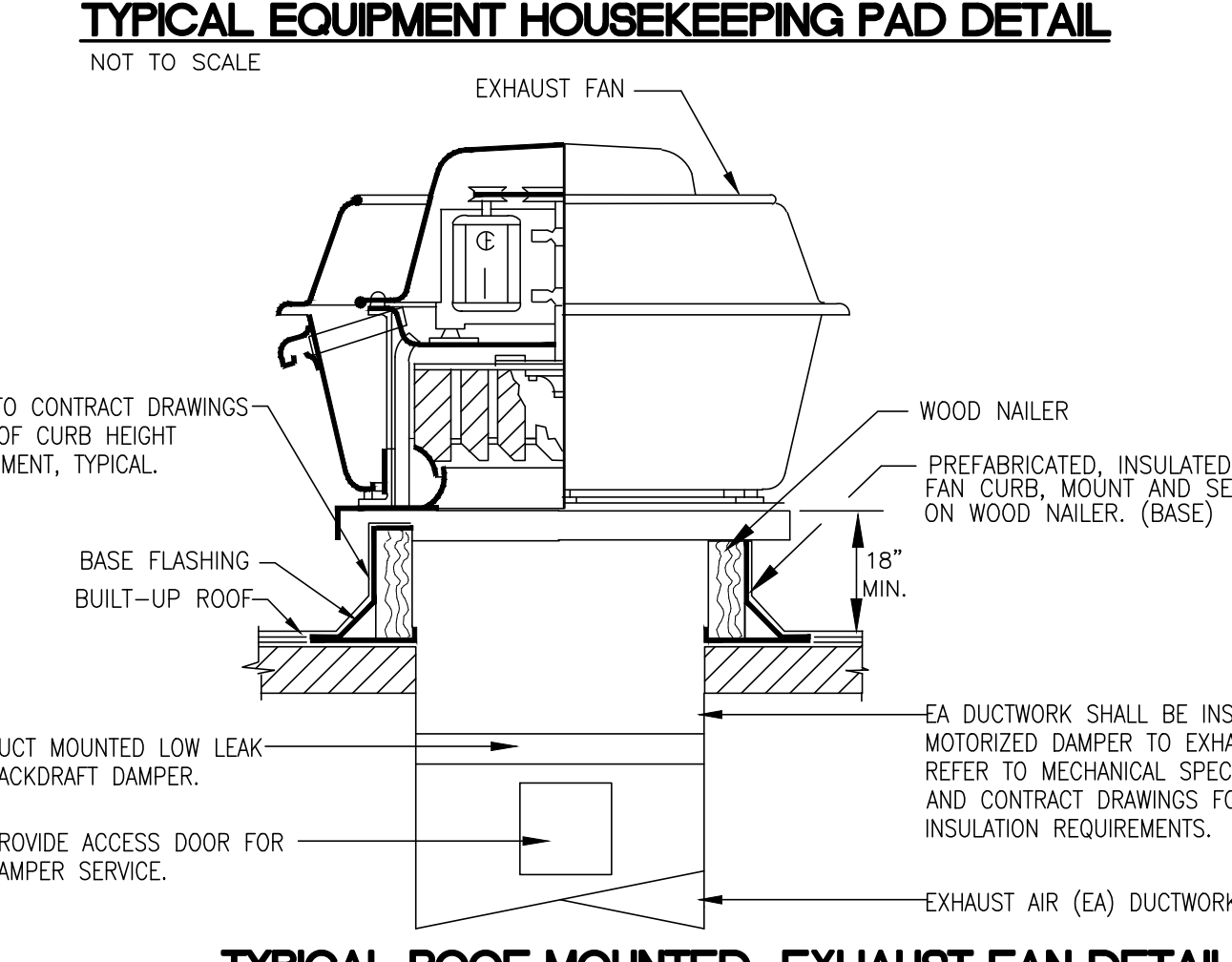
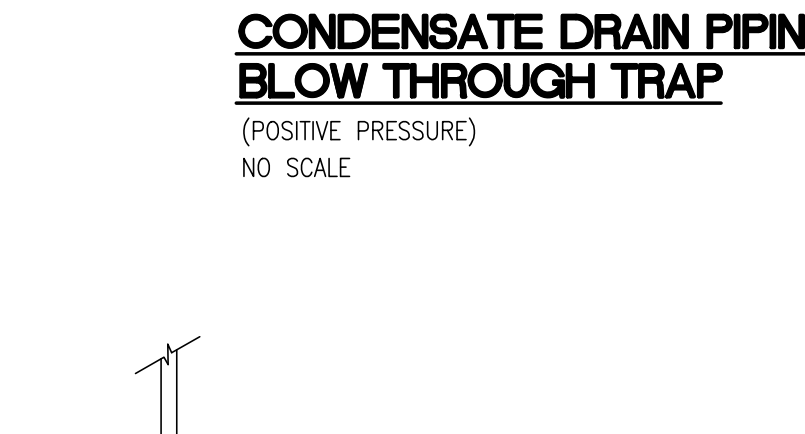
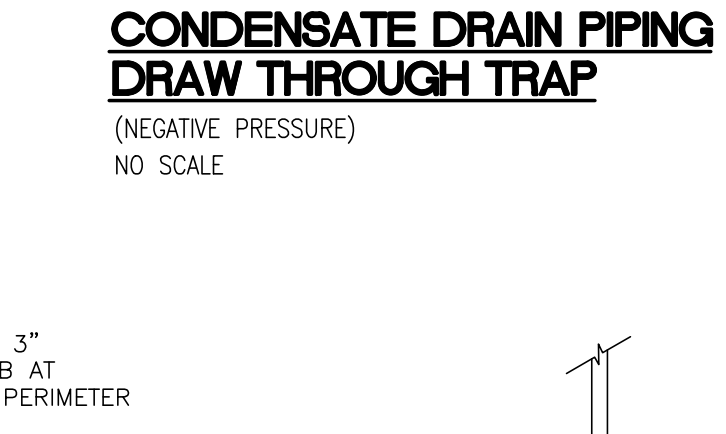
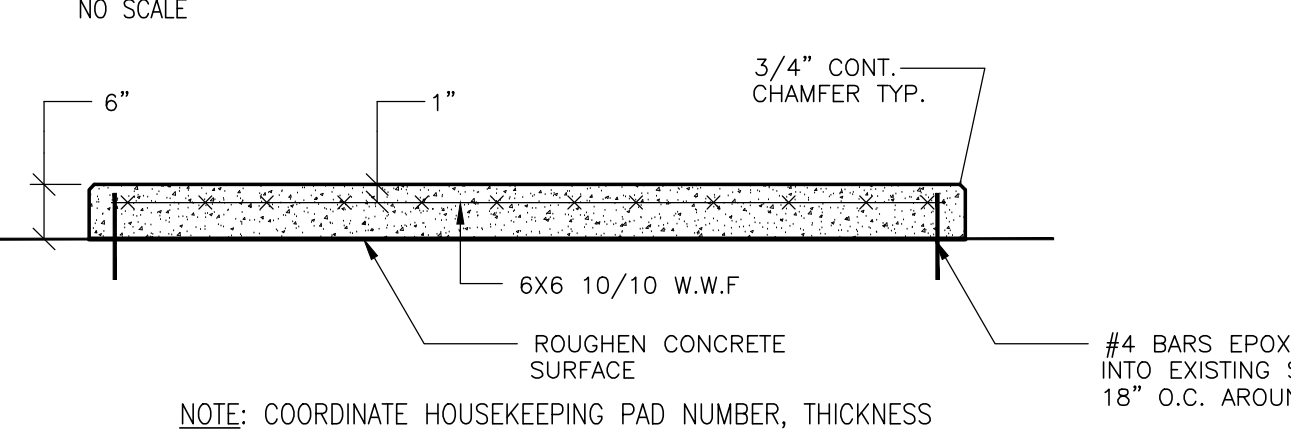
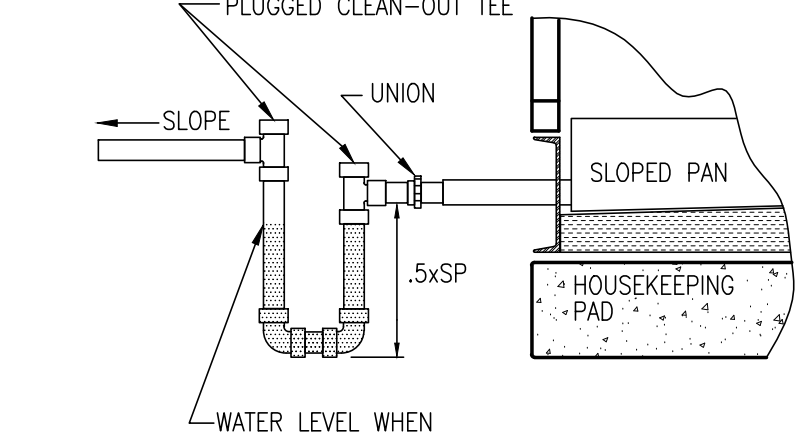
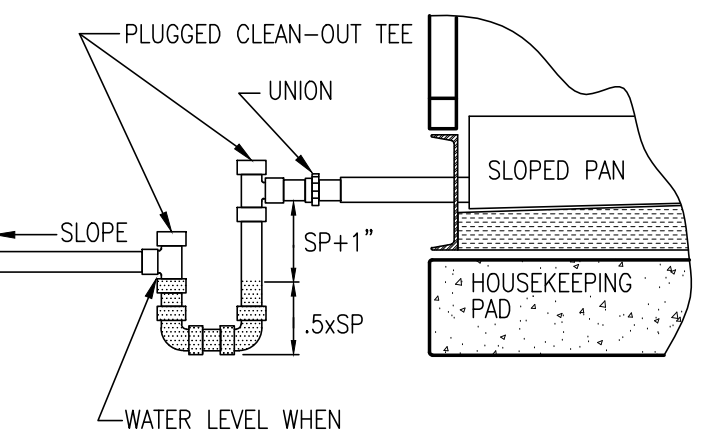
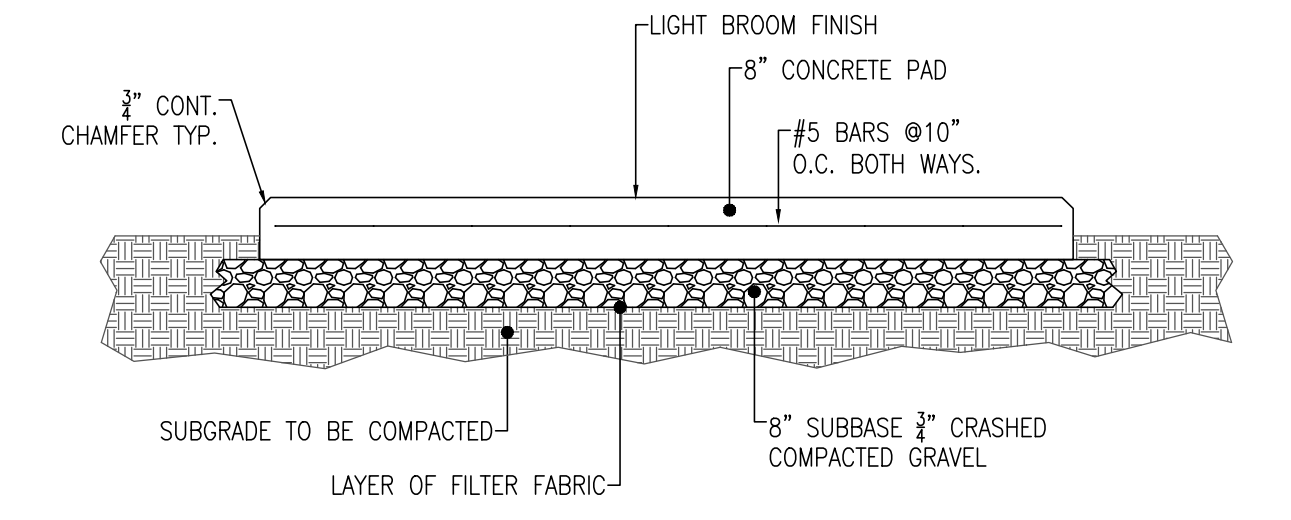
ROOF TOP UNIT SCHEDULE table with columns for Unit No., Unit Location, Area Served, MANUF., MODEL, Voltage, Design Supply CFM, EER, IER, UNIT DIMENSIONS (LxWxH), Unit Weight (lb), MCA (A), MPOD (A), and various performance metrics.

- REMARKS: 1. DUCT CONFIGURATION: VERTICAL SUPPLY/VERTICAL RETURN. 2. UNIT MANUFACTURER SHALL PROVIDE UNIT WITH BELT DRIVE WITH VFD CONTROLLER.

RTU - Sound Power (db) table with columns for Frequency (63 Hz to 8 kHz) and INLET/OUTLET/RADIATED values.

CONDENSING UNIT SCHEDULE table with columns for Unit No., MANUF., MODEL, Total Refrigeration Effect (MBH), Total Unit Power (kW), Electrical Supply, EER, IER, Refrig. Type, and various condenser specifications.

- NOTES: 1. UNIT WIRING SHALL COMPLY WITH NEC REQUIREMENTS AND WITH ALL APPLICABLE UL STANDARDS. 2. THE UNIT SHALL BE PROVIDED WITH A FACTORY WIRING WEATHERPROOF CONTROL PANEL.

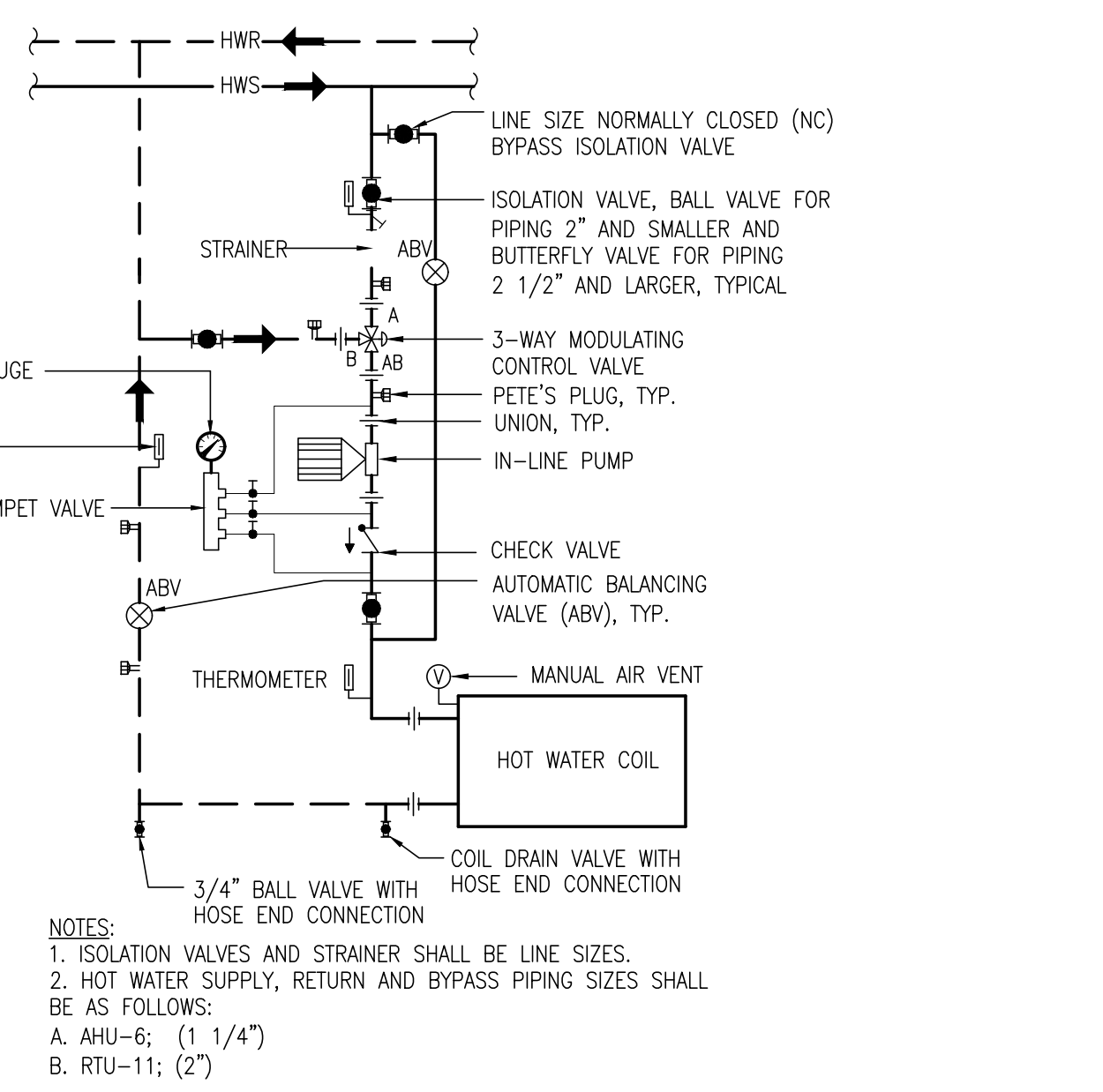
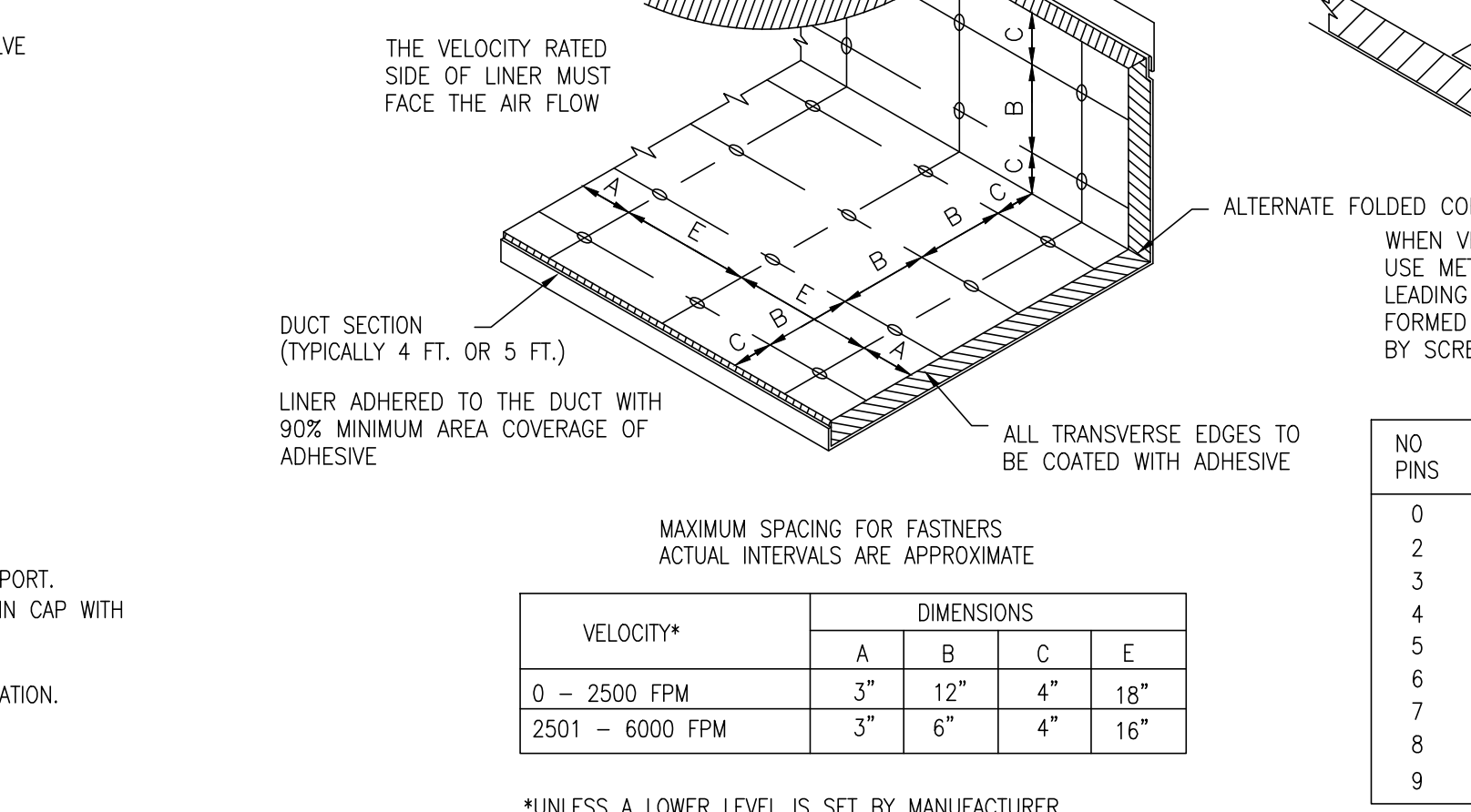
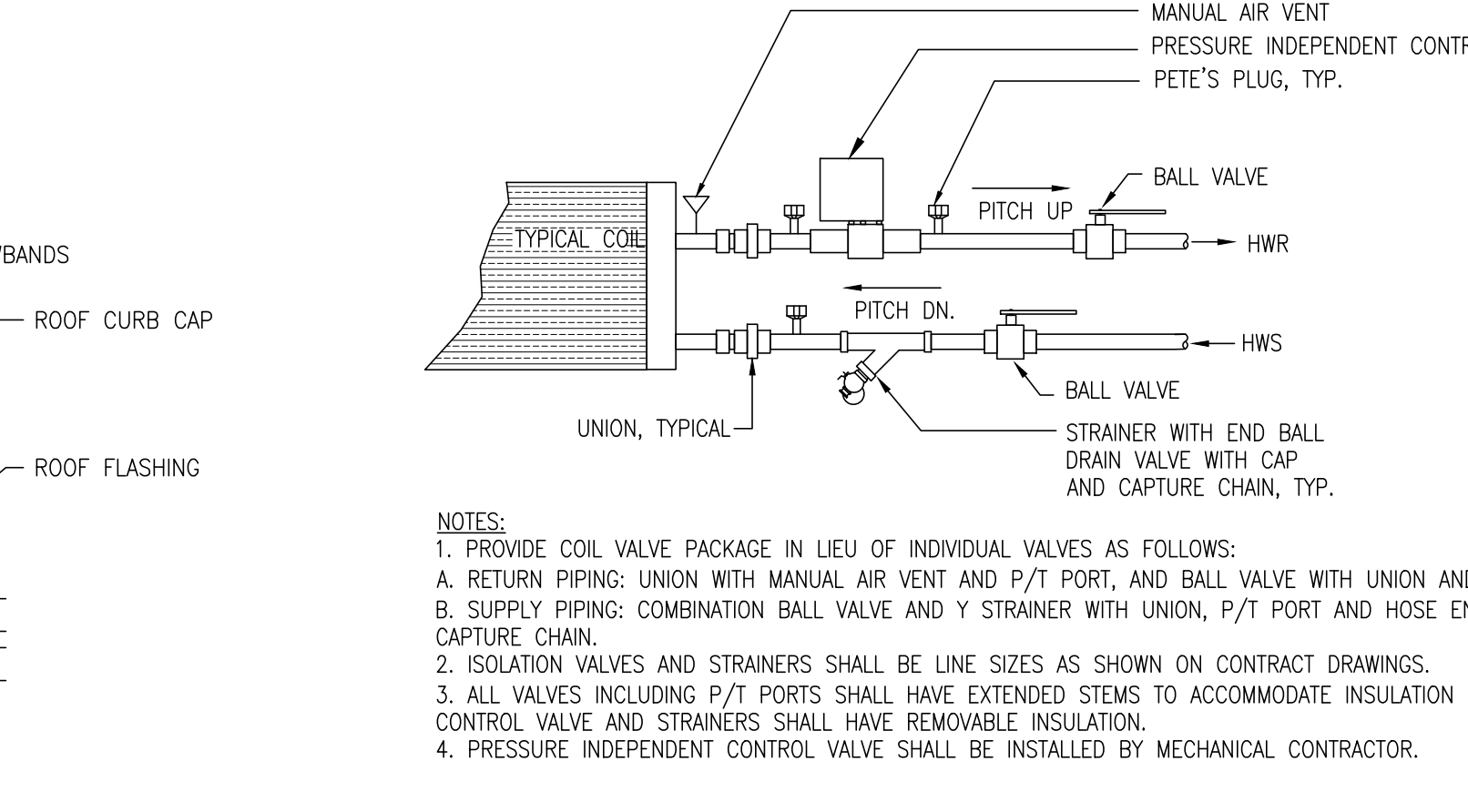
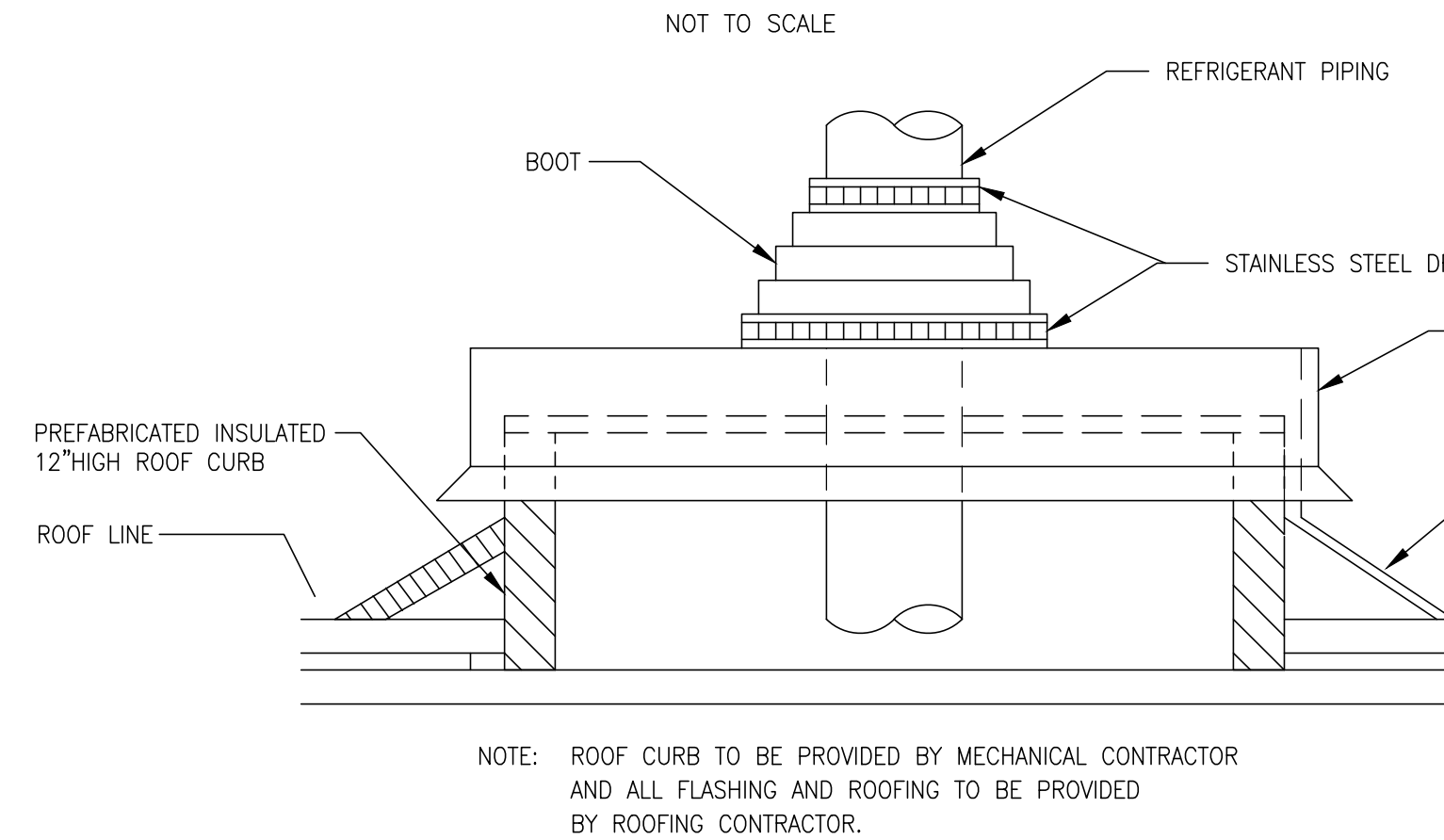


EXHAUST FAN SCHEDULE table with columns for MARK, AREA SERVED, MANUFACTURER, TYPE, MODEL, CATALOG NUMBER, CFM, SP (in w/g), FAN RPM, HP, PH, VOLT, SONES, SPEED CONTROL, LOCATION, WEIGHT (LB), and REMARKS.

- REMARKS: 1. UNIT MANUFACTURER SHALL PROVIDE ADAPTOR ROOF CURB. 2. UNIT MANUFACTURER SHALL PROVIDE LOW AIR LEAK BACK-DRAFT DAMPER.

PUMP SCHEDULE table with columns for PUMP No., LOCATION, AREA SERVED, TYPE, MANUFACTURER, MODEL, GPM, Duty Point Head (FT), Control Head (FT), RPM at Duty Point, Electrical Input Power, PH, VOLTS, WTW Efficiency at Duty Point, and REMARKS.

- REMARKS: 1. POWER WIRING AND RACEWAY BY DIVISION 26. 2. DISCONNECTS AND STARTING RELAYS FURNISHED BY DIVISION 23.



Copyright notice for BEIMS ASSOCIATES, L.L.C. with contact information for Farmington, CT.

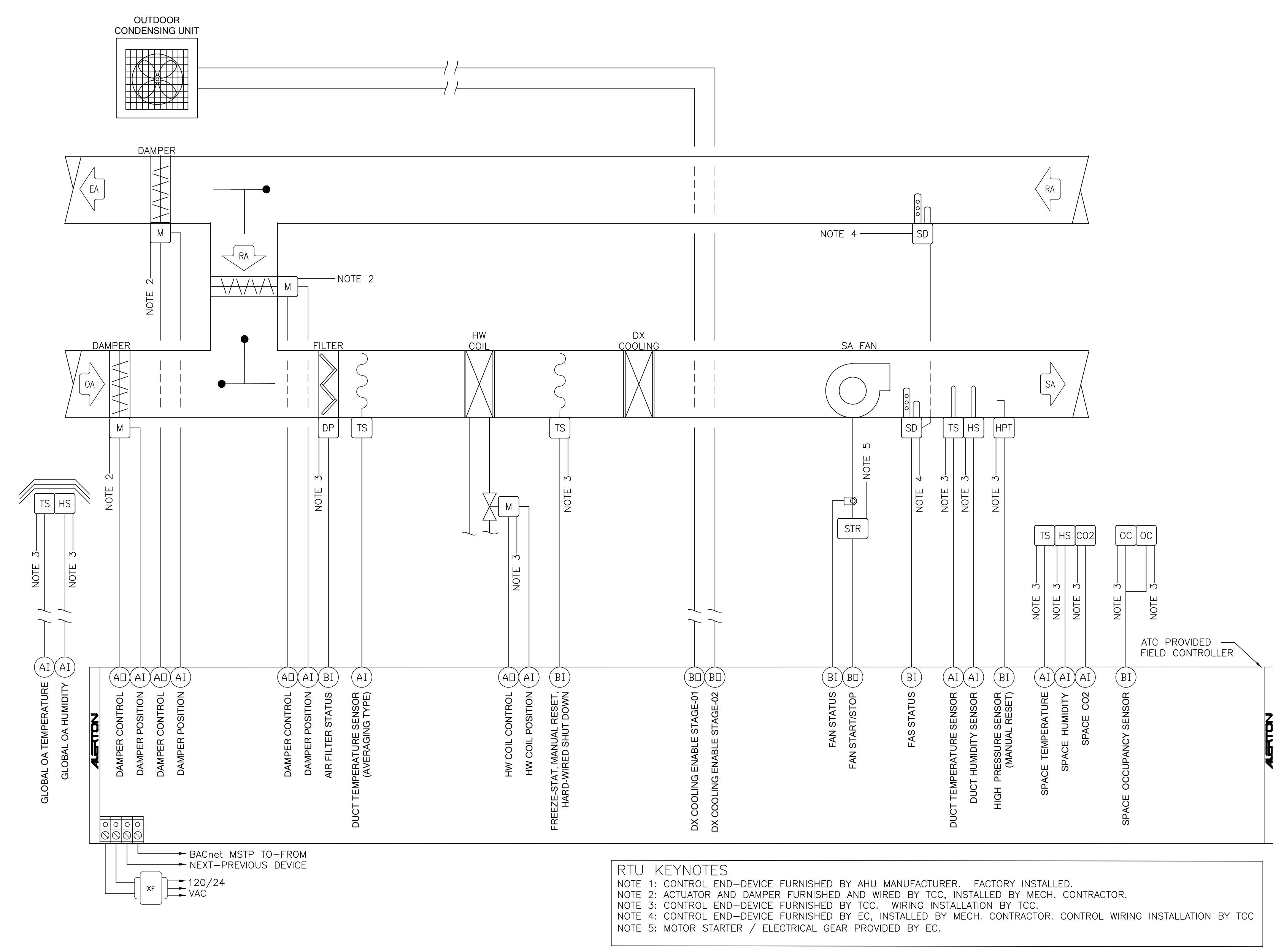
Vertical text on the right side of the page: GIDEON WELLES MIDDLE SCHOOL AIR HANDLING UNIT REPLACEMENT GLASTONBURY, CONNECTICUT

BEIMS ASSOCIATES, L.L.C. Consulting Engineers logo and contact information.

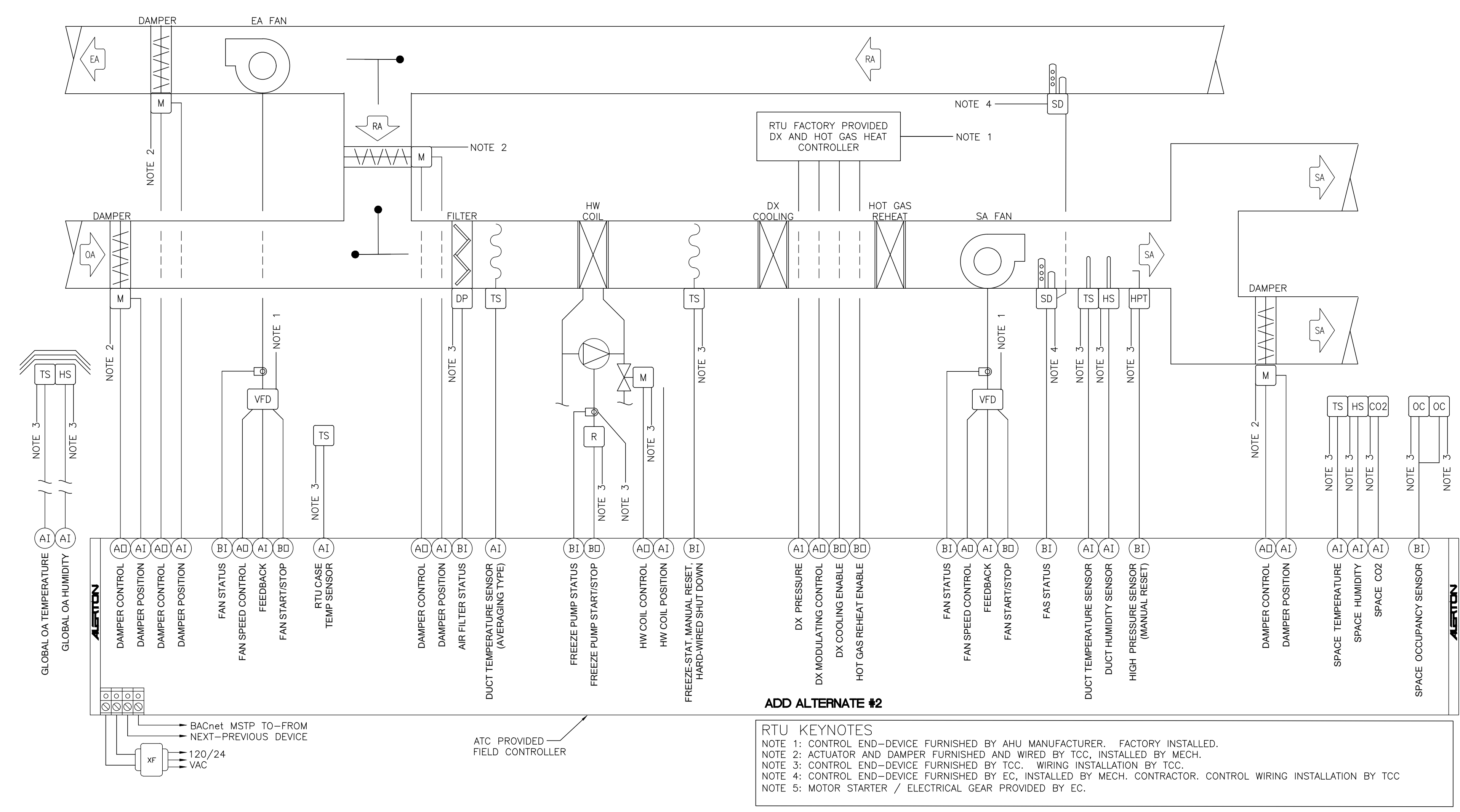
TITLE: MECHANICAL SCHEDULES

DATE: 07/28/2023

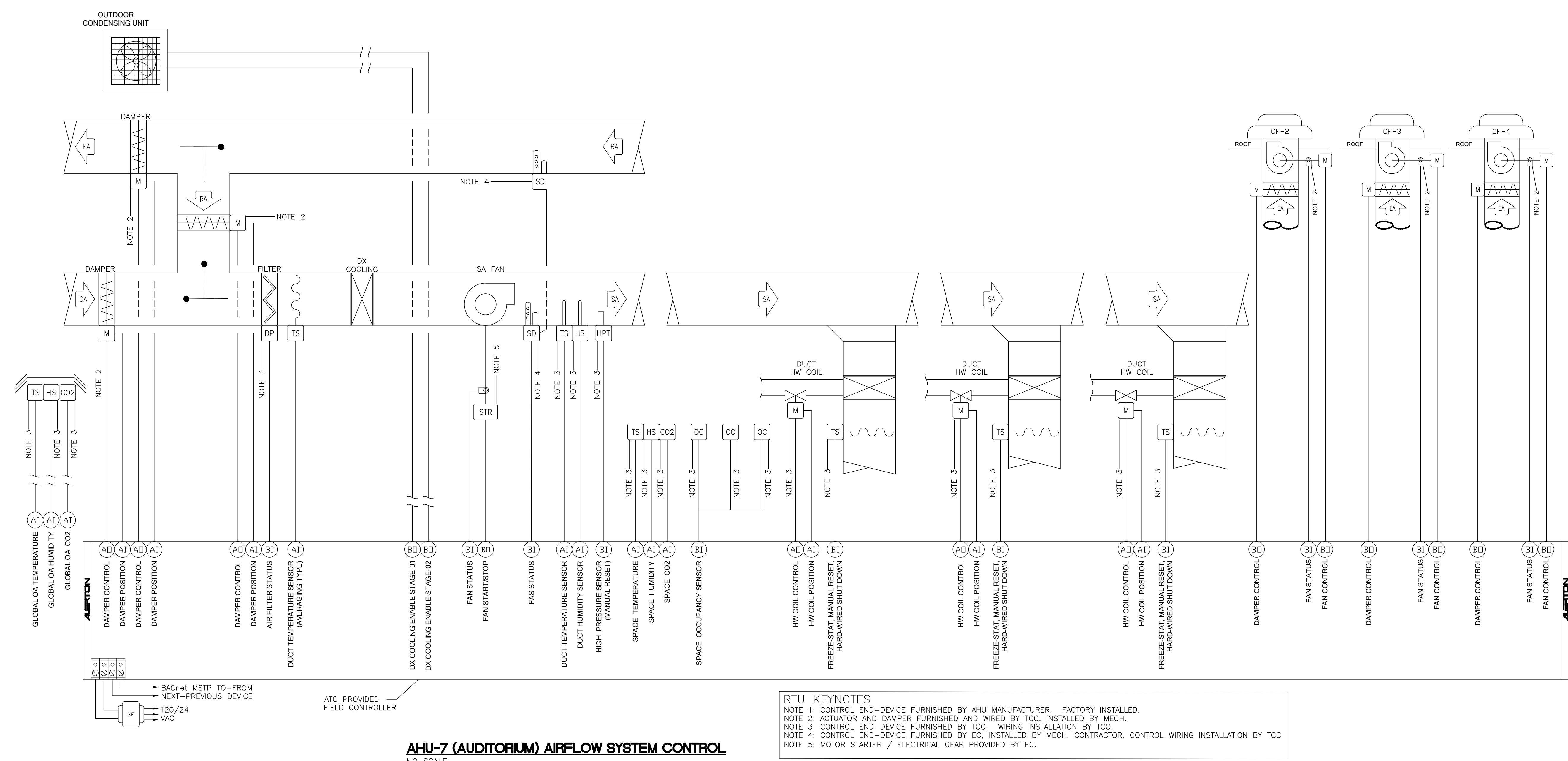
DWG. NO. M2.0



**TYP. OF AHU-6 (CAFE - ALT #1), AHU-8 (SMALL GYM - ALT #2) AIRFLOW SYSTEM CONTROL**  
NO SCALE



**AHU-11 (MAIN GYM) AIRFLOW SYSTEM CONTROL**  
NO SCALE



**AHU-7 (AUDITORIUM) AIRFLOW SYSTEM CONTROL**  
NO SCALE

**GENERAL DRAWING NOTES:**

1. ALL ELECTRIC WIRING, CONNECTIONS, DEVICES, RACEWAY AND HARDWARE REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS SHALL BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR (TCC).
2. ALL CONTROL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTROL SYSTEM MANUFACTURER'S REQUIREMENTS AND CURRENT CODES.
3. ALL LOW VOLTAGE CONTROL WIRING SHALL BE PLENUM RATED CABLE OF TYPES AND SIZES REQUIRED BY THE CONTROL SYSTEM MANUFACTURER. PROVIDE MINIMUM OF 3/4" EMT CONDUIT FOR ALL WIRING EXPOSED TO VIEW AND FOR WIRING DROPS AND RUNS WITHIN WALLS. EMT FITTINGS AND CONNECTORS SHALL BE STEEL SET SCREW TYPE.
4. ALL CONDUITS SHALL TERMINATE WITH JUNCTION BOXES OR OUTLET BOXES. PROVIDE BUSHINGS FOR ALL WIRING ENTRIES INTO THE CONDUIT SYSTEM.
5. ALL TEMPERATURE CONTROL WIRING SHALL BE NEATLY INSTALLED WITH CABLE RUNS INSTALLED PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. ALL WIRING IN NORMALLY OCCUPIED AREAS OF THE BUILDING SHALL BE CONCEALED FROM VIEW. OPEN CABLE RUNS ABOVE CEILINGS SHALL BE BUNDLE TIED WITH PLASTIC CABLE TIES AND SHALL BE SUPPORTED FREE FROM THE CEILING AND MECHANICAL/ELECTRICAL EQUIPMENT USING APPROVED CABLE HANGERS AND CABLE CLIPS.
6. THE TEMPERATURE CONTROL CONTRACTOR SHALL COORDINATE POWER SUPPLY REQUIREMENTS OF THE CONTROL SYSTEM WITH DIVISION 26.
7. REFER TO SPECIFICATION FOR ADDITIONAL CONTROLS REQUIREMENTS AND THE EQUIPMENT SEQUENCE OF OPERATIONS.
8. ALL CONTROLS DEVICES AND ELECTRONICS SHALL BE INSTALLED WITHIN A NEMA-1 ENCLOSURE LOCATED WITHIN PROXIMITY TO THE EQUIPMENT SERVED.
9. REFER TO MECHANICAL SPECIFICATIONS FOR SEQUENCE OF OPERATIONS AND ADDITIONAL DDC SENSORS REQUIREMENT.

**RTU KEYNOTES**  
 NOTE 1: CONTROL END-DEVICE FURNISHED BY AHU MANUFACTURER, FACTORY INSTALLED.  
 NOTE 2: ACTUATOR AND DAMPER FURNISHED AND WIRED BY TCC, INSTALLED BY MECH. CONTRACTOR.  
 NOTE 3: CONTROL END-DEVICE FURNISHED BY TCC, WIRING INSTALLATION BY TCC.  
 NOTE 4: CONTROL END-DEVICE FURNISHED BY EC, INSTALLED BY MECH. CONTRACTOR, CONTROL WIRING INSTALLATION BY TCC.  
 NOTE 5: MOTOR STARTER / ELECTRICAL GEAR PROVIDED BY EC.



**© COPYRIGHT**  
 The drawing is the property of Bemis & Associates, L.L.C. and shall remain the property of Bemis & Associates, L.L.C. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Bemis & Associates, L.L.C.  
 Bemis & Associates, L.L.C. is an Equal Opportunity Employer. Minorities and women are encouraged to apply. Any adjustment or violation of the rights of Bemis & Associates, L.L.C. shall be prosecuted to the fullest extent possible under the law.

**GIDEON WELLES MIDDLE SCHOOL**  
**AIR HANDLING UNIT REPLACEMENT**  
**GLASTONBURY, CONNECTICUT**

**BEMIS & ASSOCIATES, L.L.C.**  
 Consulting Engineers  
 185 Main Street  
 Farmington, CT 06031  
 Tel: (860) 337-7070  
 Fax: (860) 337-7070  
 www.bemisandassociates.com

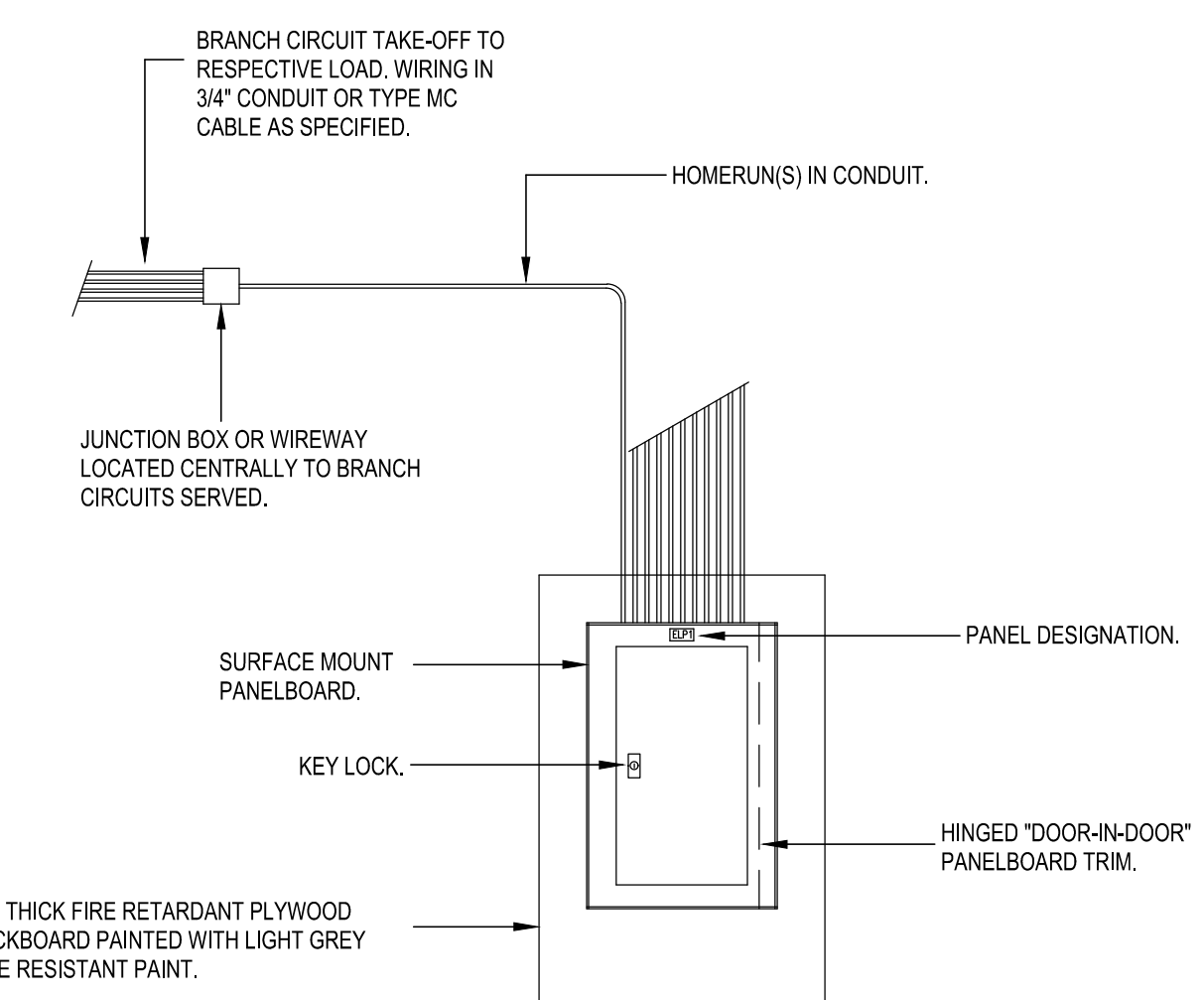
TITLE  
**ELECTRICAL SYMBOLS, SCHEDULES, NOTES AND DETAILS**

DATE **07/28/2023**

DWG. NO.  
**E0.1**

ELECTRICAL LEGEND	
SYMBOL ABBREVIATION	DESCRIPTION
	SPECIAL EQUIPMENT POWER CONNECTION. EQUIPMENT AS DESIGNATED.
	JUNCTION BOX.
	HEAVY DUTY NON-FUSED DISCONNECT SWITCH
	COMBINATION VFD/DISCONNECT SWITCH (PROVIDED WITH EQUIPMENT)
	HEAVY DUTY FUSED DISCONNECT SWITCH
	STARTER / DISCONNECT SWITCH
	CONDUCTORS IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
	BRANCH CIRCUIT HOMERUN IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
	GFCI DUPLEX RECEPTACLE WITH CAST WEATHERPROOF OUTLET BOX AND METAL IN-USE COVER.
	DUCT SMOKE DETECTOR
	120/208V-30-4V PANELBOARD.
	AMPS.
	AIR HANDLING UNIT.
	ABOVE FINISHED FLOOR.
	AMERICAN WIRE GAUGE.
	CONDUIT.
	CIRCUIT BREAKER.
	COPPER.
	CONSENSUS UNIT.
	EXISTING.
	GROUND.
	POLE.
	VARIABLE AIR VOLUME BOX.
	VARIABLE FREQUENCY DRIVE.
	WEATHERPROOF.

ELECTRICAL NEW WORK KEYNOTES	
TAG	DESCRIPTION
1	CONNECT NEW EXHAUST FAN (FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR) TO EXISTING BRANCH CIRCUIT CONDUCTORS AS REQUIRED (MAINTAIN CONTINUITY).
2	PROVIDE NEW 60A NON-FUSED DISCONNECT IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 3/8" 1/16" IN 3/4" EMT CONDUIT FROM EXISTING PANEL BD-1 TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED.
3	REMOVE EXISTING 3P-20A CIRCUIT BREAKER IN EXISTING PANEL BD-1 SERVING EXISTING AHU-6. PROVIDE NEW 3P-40A C/B IN SPACE MADE AVAILABLE BY REMOVAL AND CONNECT AS REQUIRED. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD MANUFACTURER & AC RATING (COORDINATE WITH FIELD CONDITIONS).
4	PROVIDE NEW 60A FUSED DISCONNECT WITH (3) 30A FUSES IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND #10 1/16" IN 3/4" EMT CONDUIT FROM EXISTING WIRING TROUGH TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED. NEW FEEDER TAP FROM EXISTING WIRING TROUGH TO NEW DISCONNECT SWITCH SHALL NOT EXCEED 10' IN CONDUCTOR LENGTH.
5	PROVIDE NEW AIR CONDITIONING DISTRIBUTION PANEL. AC-DP REFER TO POWER RISER DIAGRAM.
6	NEW AIR CONDITIONING PANEL AC-B. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
7	NEW AIR CONDITIONING PANEL AC-C. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
8	PROVIDE NEW DUCT SMOKE DETECTOR (MATCH EXISTING FIRE ALARM SYSTEM MANUFACTURER) FOR NEW RTU-11 SHUTDOWN. PROVIDE REMOTE TEST SWITCH (VERIFY MOUNTING LOCATION WITH LOCAL AHU).
9	RE-WORK EXISTING DUCT SMOKE DETECTOR LOCATION PER NFPA-72 AS REQUIRED TO ACCOMMODATE FAN TRIVOUS DETECTOR WORK LAYOUTS. CONNECT TO NEW AHU UNIT FOR FAN SHUTDOWN.

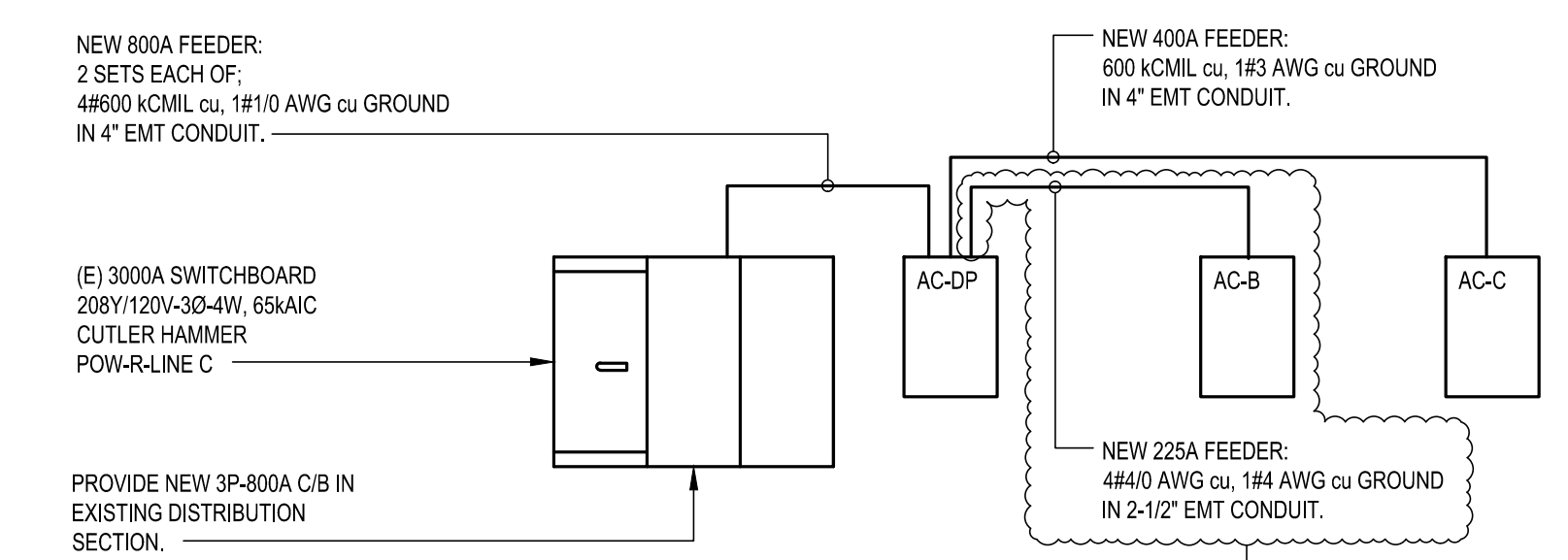


**TYPICAL BRANCH CIRCUIT HOMERUN ARRANGEMENT**

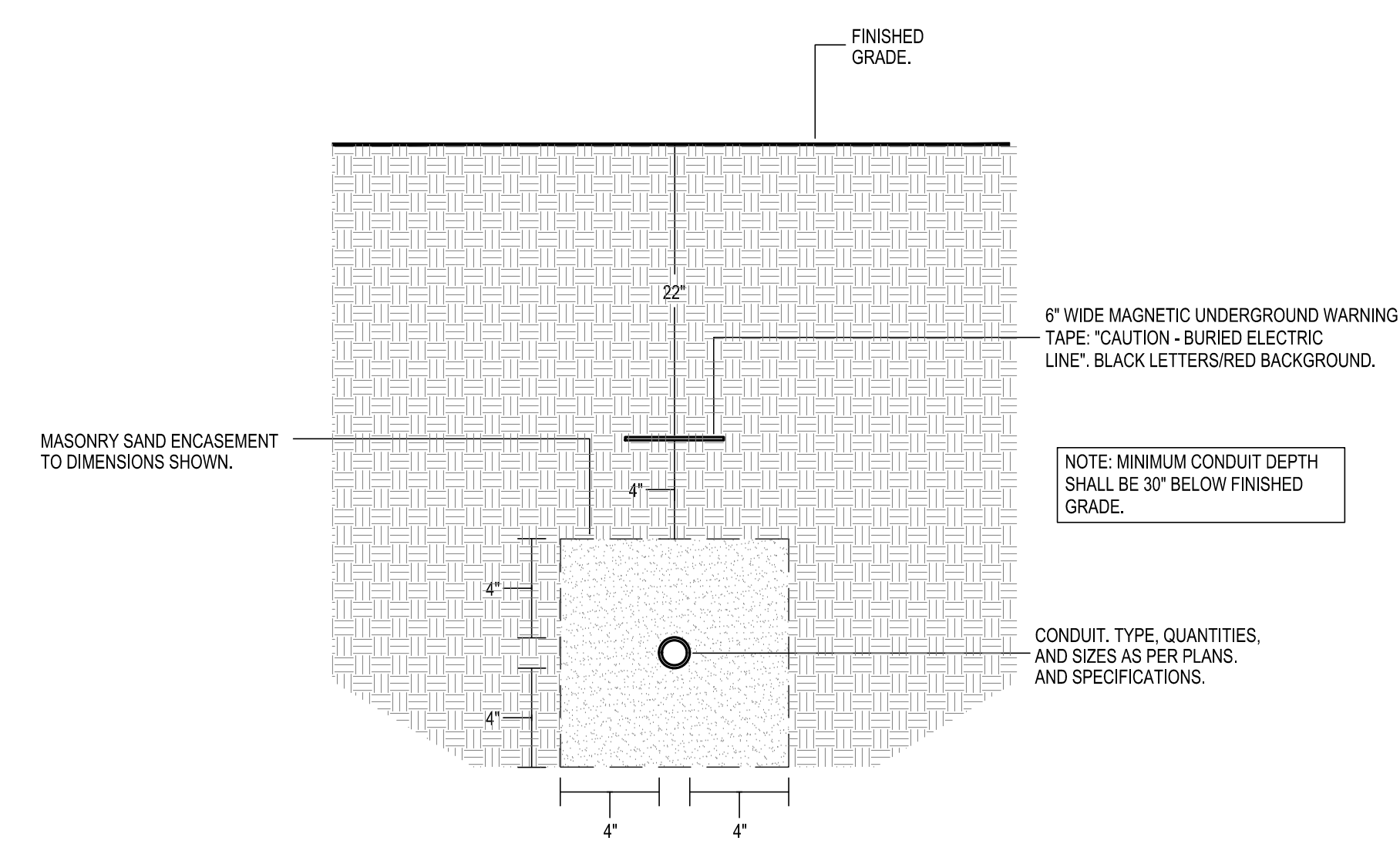
**SCHEDULE OF BRANCH CIRCUIT CONDUCTOR SIZES**

C/B SIZE	CIRCUIT SIZE
20A-1P	** 2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-2P	2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-3P	3 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
25A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
60A-1P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-2P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-3P	3 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
70A-1P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
70A-2P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
70A-3P	3 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-1P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-2P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-3P	3 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-1P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-2P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-3P	3 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-1P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-2P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-3P	3 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.

\* PROVIDE CIRCUIT SIZE AND NUMBER OF CONDUCTORS SCHEDULED UNLESS NOTED OR SHOWN DIFFERENTLY ON THE DRAWINGS. CROSS REFERENCE CIRCUIT DESIGNATIONS SHOWN IN DRAWINGS WITH RESPECTIVE PANEL SCHEDULES TO OBTAIN C/B SIZE.  
 \*\* PROVIDE #10 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 75' IN CONDUCTOR LENGTH AND #8 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 150' IN CONDUCTOR LENGTH.



**POWER RISER DIAGRAM**



**UNDERGROUND CONDUIT DETAIL**

PANEL: AC-B		MANUFACTURER & MODEL #		EATON (CUTLER HAMMER) #POW-R-LINE 3s								
MOUNTING: SURFACE		VOLTAGE CLASSIFICATION:		208Y/120V, 3 PHASE, 4 WIRE								
MAINS RATING: 225 A MCB		SCR (FULLY RATED):		65K A.I.C.								
200% NEUTRAL NO		SPD:		NO								
BREAKER		PHASE LOAD KW		BREAKER								
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	LOAD DESCRIPTION	POLE	TRIP RATING	#				
1												
3	125	3	CU-6	11.14	11.14 0.18		0.18	CU-6 Convenience Rec	1	20	2	
3				11.14			0.83	Circ Pump CP-6	1	20	4	
6				11.14							6	
7	20	1	Spare		0.00 0.00				Spare	1	20	8
9	20	1	Spare			0.00 0.00			Spare	1	20	10
11	20	1	Spare						Spare	1	20	12
13			Blank Space		0.00 0.00		0.00 0.00		Blank Space			14
15			Blank Space			0.00 0.00			Blank Space			16
17			Blank Space				0.00 0.00		Blank Space			18
19			Blank Space		0.00 0.00				Blank Space			20
21			Blank Space			0.00 0.00			Blank Space			22
23			Blank Space				0.00 0.00		Blank Space			24
25			Blank Space		0.00 0.00				Blank Space			26
27			Blank Space				0.00 0.00		Blank Space			28
29			Blank Space						Blank Space			30
<b>TOTAL LOAD:</b>				<b>11.32</b>	<b>11.97</b>	<b>11.14</b>		<b>TOTAL LOAD ON PANEL</b>	<b>34</b>	<b>KW</b>	<b>96</b>	<b>AMPS</b>

- NOTES:**  
 [1] PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.  
 [2] PROVIDE WITH DOOR-IN DOOR TRIM.  
 [3] PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.  
 [4] PROVIDE WITH METAL FRAME PLASTIC COVER CIRCUIT DIRECTORY FRAME.  
 [5] PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.  
 [6] CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.  
 [7] \* = GFCI C/B.  
 [8] ■ = AFCI C/B.

PANEL: AC-C		MANUFACTURER & MODEL #		EATON (CUTLER HAMMER) #POW-R-LINE 3s								
MOUNTING: SURFACE		VOLTAGE CLASSIFICATION:		208Y/120V, 3 PHASE, 4 WIRE								
MAINS RATING: 400 A MCB		SCR (FULLY RATED):		65K A.I.C.								
200% NEUTRAL NO		SPD:		NO								
BREAKER		PHASE LOAD KW		BREAKER								
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	LOAD DESCRIPTION	POLE	TRIP RATING	#				
1												
3	80	3	CU-8	5.88	5.88 19.63		19.63	RTU-11	3	175	4	
5				5.88			19.63				6	
7				5.88			19.63				8	
9	50	3	AHU-7	2.04	2.04 0.18		0.18	Rooftop Receptacles	1	20	8	
11				2.04			0.83	Circ Pump CP-11	1	20	10	
13	20	1	Spare		0.00 0.00				Spare	1	20	12
15	20	1	Spare			0.00 0.00			Spare	1	20	14
17	20	1	Spare				0.00 0.00		Spare	1	20	16
19			Blank Space		0.00 0.00				Blank Space			18
21			Blank Space			0.00 0.00			Blank Space			20
23			Blank Space				0.00 0.00		Blank Space			22
25			Blank Space		0.00 0.00				Blank Space			24
27			Blank Space				0.00 0.00		Blank Space			26
29			Blank Space						Blank Space			28
<b>TOTAL LOAD:</b>				<b>27.73</b>	<b>28.38</b>	<b>27.55</b>		<b>TOTAL LOAD ON PANEL</b>	<b>84</b>	<b>KW</b>	<b>232</b>	<b>AMPS</b>

- NOTES:**  
 [1] PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.  
 [2] PROVIDE WITH DOOR-IN DOOR TRIM.  
 [3] PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.  
 [4] PROVIDE WITH METAL FRAME PLASTIC COVER CIRCUIT DIRECTORY FRAME.  
 [5] PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.  
 [6] CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.  
 [7] \* = GFCI C/B.  
 [8] ■ = AFCI C/B.

ADD ALTERNATE #1

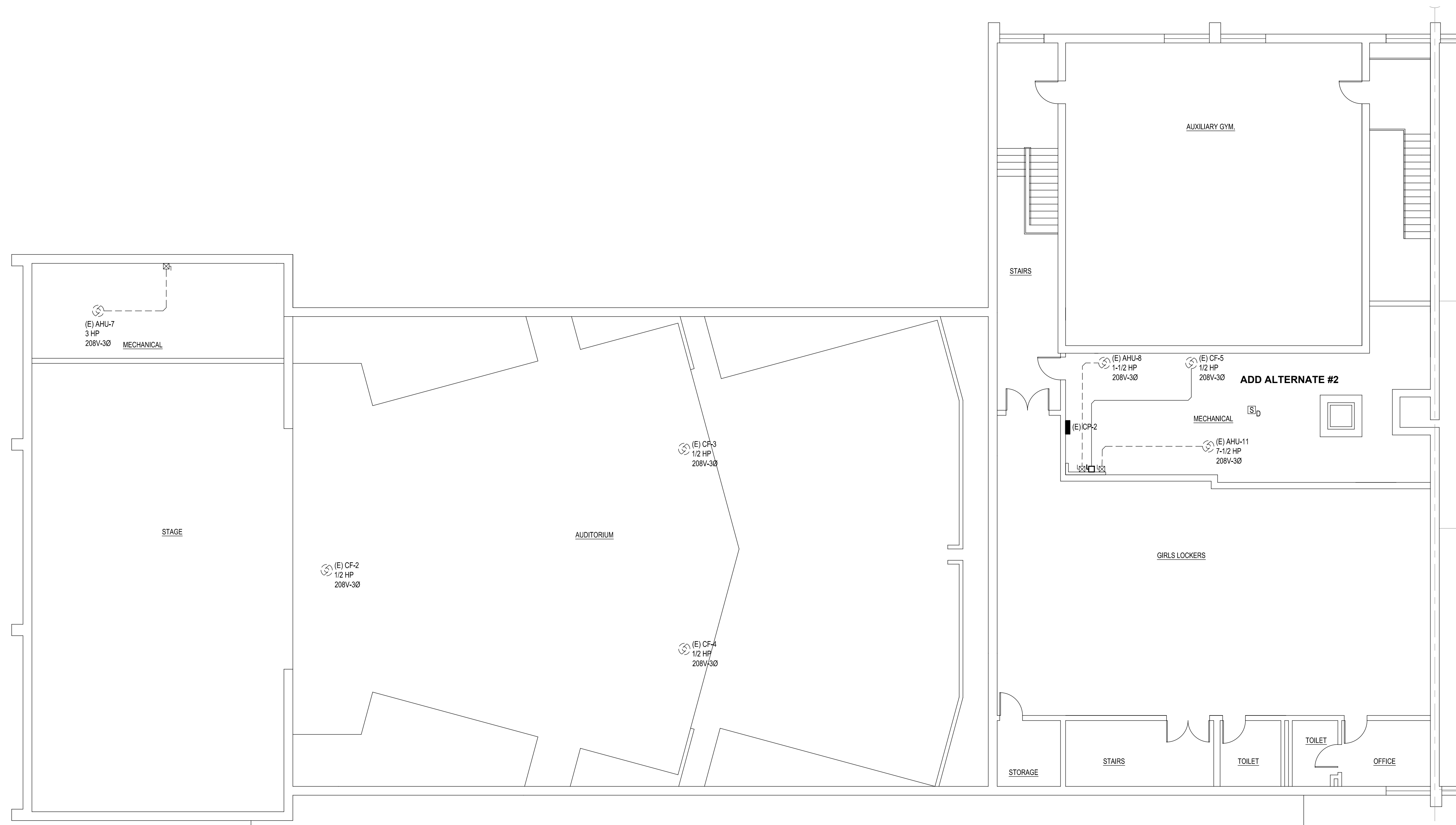
ADD ALTERNATE #1

ADD ALTERNATE #2

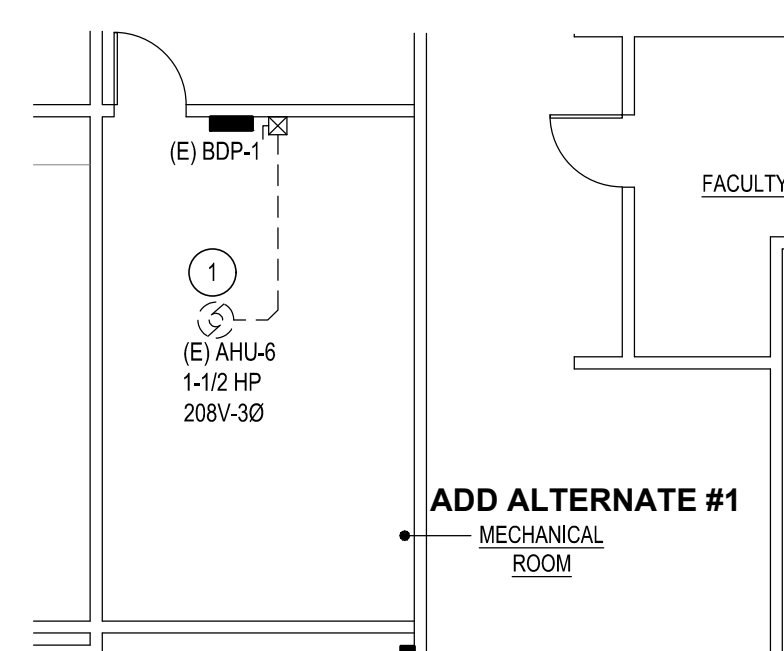
ADD ALTERNATE #2

ADD ALTERNATE #1





**2nd FLOOR PLAN SECTION "C" - ELECTRICAL DEMOLITION**  
SCALE: 1/8"=1'-0"



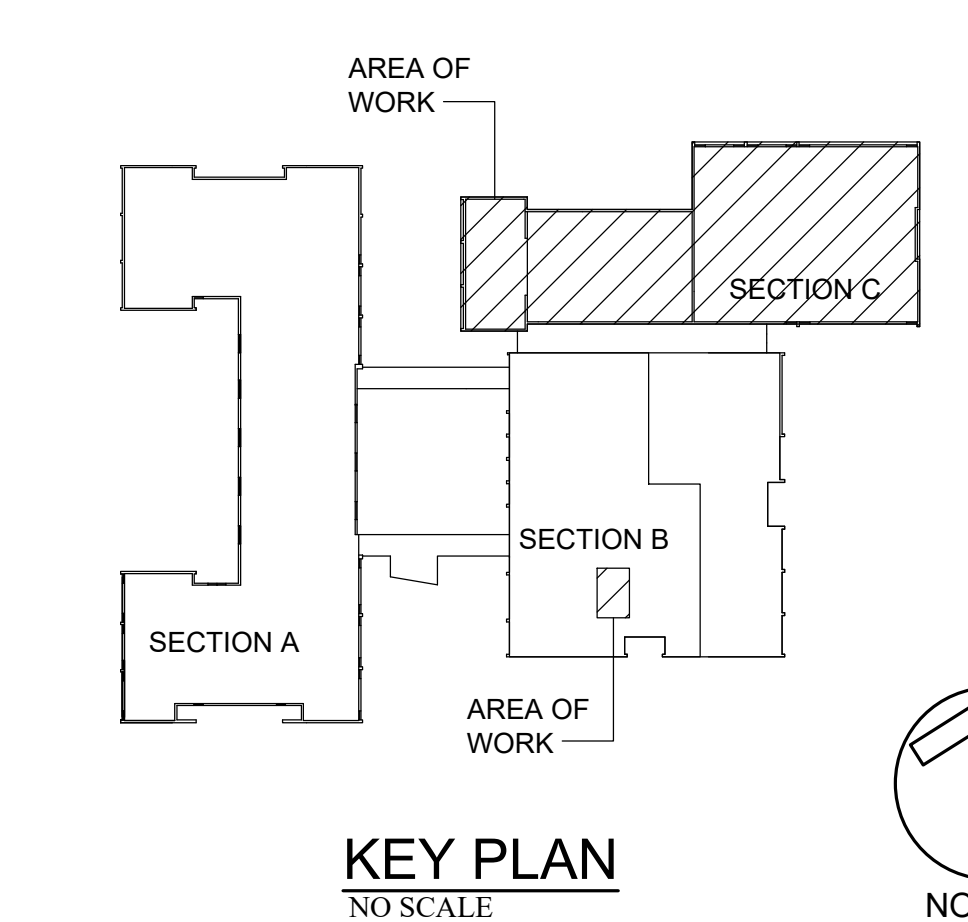
**1st FLOOR PART PLAN SECTION "B" - ELECTRICAL DEMOLITION**  
SCALE: 1/8"=1'-0"

- ELECTRICAL DEMOLITION WORK NOTES**
1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
  2. THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
  3. REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.
  4. EXISTING ELECTRICAL EQUIPMENT, WIRING, AND RACEWAYS SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED OTHERWISE.
  5. REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY. MATERIAL REQUESTED BY THE OWNER FOR SALVAGE SHALL BE DELIVERED TO THE OWNER'S DESIGNATED MATERIAL STORAGE AREA.
  6. PROVIDE WIRING AS REQUIRED AND RECONNECT EXISTING FIXTURES, DEVICES, OR EQUIPMENT THAT ARE TO REMAIN ACTIVE, BUT HAVE BEEN DISCONNECTED DURING DEMOLITION OF OTHER FIXTURES, DEVICES, OR EQUIPMENT.

- GENERAL SPECIFICATION NOTES - POWER**
1. THE CONTRACTOR SHALL VERIFY AND OBTAIN ALL NECESSARY DIMENSIONS AT THE BUILDING.
  2. FINISHED WORK. THE INTENT OF THE SPECIFICATIONS AND DRAWINGS IS TO CALL FOR FINISHED WORK, COMPLETED, TESTED AND READY FOR OPERATION.
  3. GOOD PRACTICE. IT IS NOT INTENDED THAT THE DRAWINGS SHOW EVERY CONDUIT, JUNCTION BOX, FITTING OR MINOR DETAIL AND IT IS UNDERSTOOD THAT WHILE THE DRAWINGS MUST BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE SYSTEMS SHALL BE INSTALLED ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH GOOD PRACTICE.
  4. ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
  5. CODES AND STANDARDS - COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND STANDARDS WHEREVER APPLICABLE INCLUDING THE FOLLOWING: 2018 CONNECTICUT STATE BUILDING CODE, 2015 INTERNATIONAL BUILDING CODE, 2018 CONNECTICUT FIRE SAFETY CODE, 2015 INTERNATIONAL FIRE CODE, 2013 NFPA 72 NATIONAL FIRE ALARM CODE, 2017 NFPA 70 NATIONAL ELECTRICAL CODE, 2010 NFPA 110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 2015 INTERNATIONAL ENERGY CONSERVATION CODE, ICC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, ADA, NFPA, UNDERWRITERS LABORATORIES, FACTORY MUTUAL INSURANCE COMPANY, NEMA STANDARDS.
  6. NOTE THAT THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT AND SYSTEMS, WITHOUT SHOWING EVERY DETAIL AND FITTING.
  7. RACEWAYS: PROVIDE EMT CONDUIT FOR ALL WIRING. EMT CONNECTORS AND COUPLINGS SHALL BE GALVANIZED STEEL - SET-SCREW TYPE. PROVIDE GLAND COMPRESSION CONNECTORS AND COUPLINGS WHERE LOCKED IN DAMP AND WET LOCATIONS. PROVIDE FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO MOTOR DRIVEN EQUIPMENT. PROVIDE LIQUID TIGHT FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO MOTOR DRIVEN EQUIPMENT LOCATED OUTDOORS.
  8. BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, RATED 600 VOLTS, 90 DEG C, COLOR CODED, TYPE THWN-2.
  9. WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED. WIRE OF SIZE SMALLER THAN #8 AWG SHALL BE SOLID.
  10. MINIMUM SIZE CONDUCTORS FOR POWER AND LIGHTING SHALL BE #12 AWG. PROVIDE MINIMUM #10 AWG SIZE FOR RUNS EXCEEDING 75' IN CONDUCTOR LENGTH, AND #8 AWG SIZE FOR RUNS EXCEEDING 150' IN CONDUCTOR LENGTH. PROVIDE LARGER SIZE CONDUCTORS AS SCHEDULED OR AS NOTED ON THE DRAWINGS.
  11. THE NUMBER OF WIRES IN A CONDUIT RUN IS INDICATED ON THE DRAWINGS BY CROSS LINES ON THE CONDUIT RUNS. PROVIDE CODE-SIZED CONDUIT FOR THE NUMBER AND SIZE OF WIRES UNLESS A LARGER SIZE IS SHOWN ON THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 3/4".
  12. RACEWAYS SHALL BE CONCEALED WHEREVER POSSIBLE IN ALL FINISHED AREAS.
  13. RACEWAYS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALL LINES.
  14. RACEWAYS SHALL BE SUPPORTED FROM THE STRUCTURE BY STRAP HANGERS, ROD HANGERS, OR RACK MOUNTED, OR OTHER APPROVED ELECTRICAL MOUNTING.
  15. PROVIDE FIRE STOPPING AT ALL FIRE AND/OR SMOKE RATED WALL OR CEILING PENETRATIONS IN ORDER TO MAINTAIN ITS ORIGINAL INTEGRITY.
  16. OUTLET, JUNCTION, AND PULL BOXES SHALL BE CODE GAUGE GALVANIZED STEEL AND SHALL BE OF SHAPES AND SIZES TO SUIT THEIR RESPECTIVE LOCATIONS AND INSTALLATIONS, AND SHALL BE PROVIDED WITH COVERS TO SUIT THEIR FUNCTION AND INSTALLATION. PROVIDE CAST BOXES FOR OUTDOOR WORK.
  17. THE CONTRACTOR SHALL ASSUME THAT THE EXISTING BUILDING WIRING SYSTEM UTILIZES A CONDUIT GROUND. THE CONTRACTOR SHALL MAINTAIN ADEQUATE GROUND CONTINUITY FOR ALL NEW WORK.

**ELECTRICAL DEMOLITION WORK KEYNOTES**

TAG	DESCRIPTION
1	DISCONNECT & REMOVE EXISTING AHU-4 ELECTRICAL & ALL ASSOCIATED BRANCH CIRCUIT WIRING (BACK TO SOURCE PANEL) CUT BACK CONDUIT TO ABOVE CEILING / STRUCTURE. SECURE AND CAP.
2	DISCONNECT & REMOVE EXISTING AHU-11 ELECTRICAL AND ALL ASSOCIATED BRANCH WIRING & CONDUIT BACK TO WIRING TROUGH, PATCH HOLES IN THROUGH AS REQUIRED.
3	DISCONNECT & REMOVE EXISTING AHU-8 ELECTRICAL AND ALL ASSOCIATED BRANCH WIRING & CONDUIT BACK TO WIRING TROUGH, PATCH HOLES IN THROUGH AS REQUIRED.
4	DISCONNECT & REMOVE EXISTING AHU-7 ELECTRICAL & ALL ASSOCIATED BRANCH CIRCUIT WIRING (BACK TO SOURCE PANEL) CUT BACK CONDUIT TO ABOVE CEILING / STRUCTURE. SECURE AND CAP.
5	DISCONNECT EXISTING EXHAUST FAN ELECTRICAL (LOCATED ON ROOF ABOVE), MAKE SAFE FOR INSTALLATION OF NEW EXHAUST FAN.
6	DISCONNECT & REMOVE EXISTING DUCT SMOKE DETECTOR & ASSOCIATED TEST SWITCH & WIRING, MADE OBSOLETE BY REMOVAL OF AHU-11 DUCTWORK.



**© COPYRIGHT**  
This drawing is the property of Bemis Associates, L.L.C. and shall remain the property of Bemis Associates, L.L.C. No part of this drawing may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Bemis Associates, L.L.C. All rights reserved. Bemis Associates, L.L.C. is not responsible for any errors or omissions in this drawing. Any adjustments or omissions of the rights of Bemis Associates, L.L.C. shall be governed by the state laws of Connecticut.

**GIDEON WELLES MIDDLE SCHOOL  
AIR HANDLING UNIT REPLACEMENT  
GLASTONBURY, CONNECTICUT**

**BEMIS ASSOCIATES, L.L.C.**  
Consulting Engineers  
185 Main Street  
Farmington, CT 06032  
Tel: (860) 321-7070  
Fax: (860) 321-7070  
www.bemisassociates.com

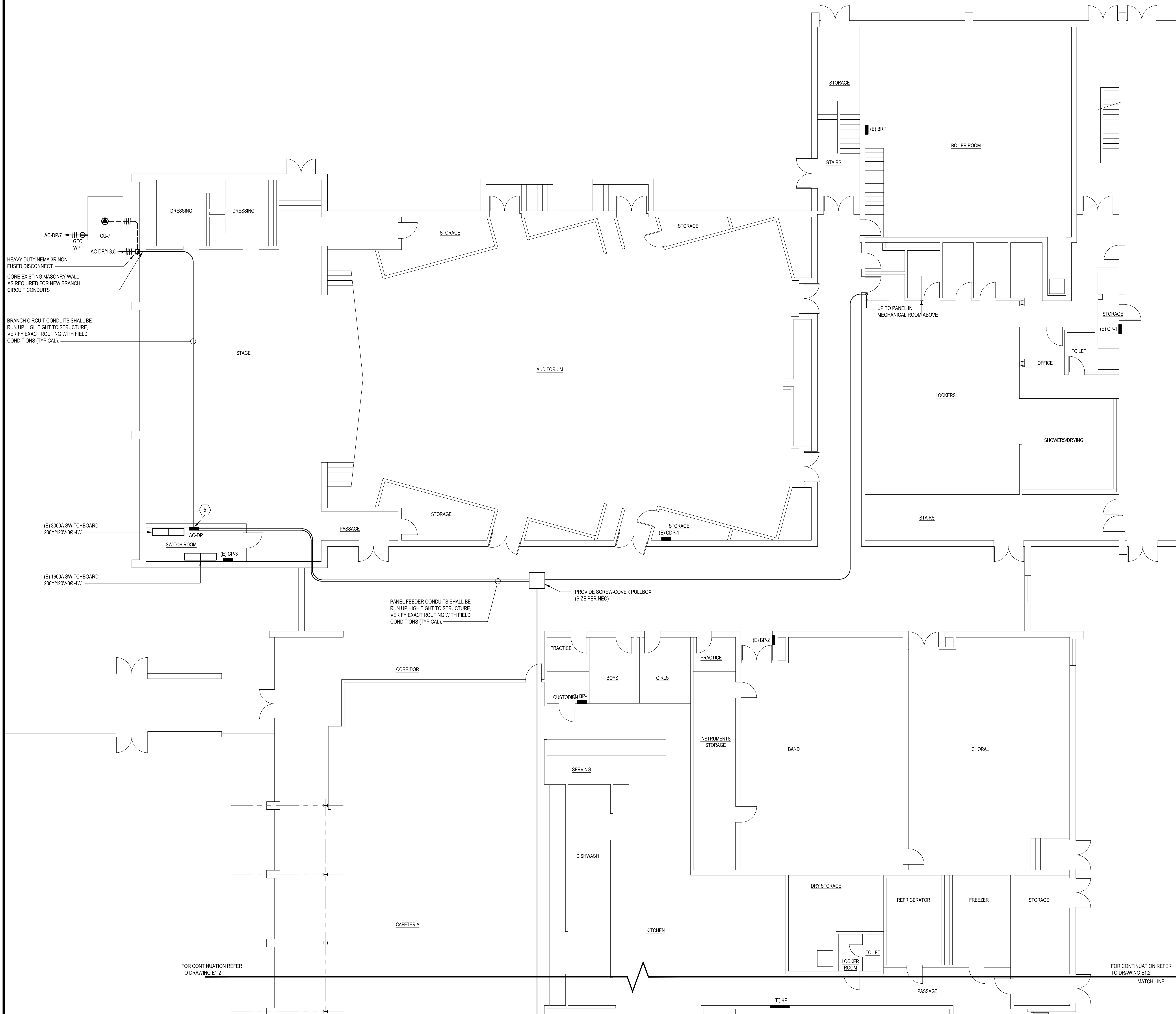
TITLE  
**1st and 2nd FLOOR  
PLAN SECTIONS B &  
C ELECTRICAL  
DEMOLITION**

DATE **07/28/2023**

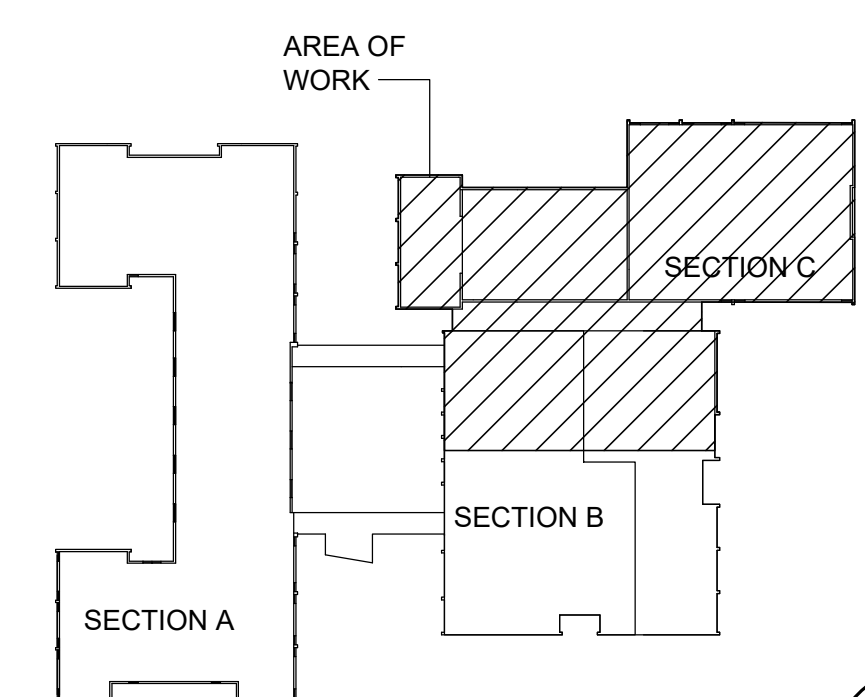
DWG. NO.  
**E1.1D**



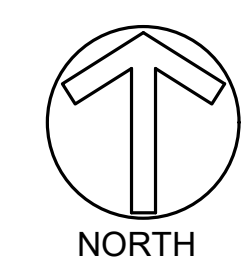
ELECTRICAL NEW WORK KEYNOTES	
TAG	DESCRIPTION
1	CONNECT NEW EXHAUST FAN (FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR) TO EXISTING BRANCH CIRCUIT CONDUCTORS AS REQUIRED (MAINTAIN CONTINUITY).
2	PROVIDE NEW 60A NON-FUSED DISCONNECT IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 3/8" 1" O.D. IN 3/4" EMT CONDUIT FROM EXISTING PANEL BD-1 TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED.
3	REMOVE EXISTING 3P-20A CIRCUIT BREAKER IN EXISTING PANEL BD-1 SERVING EXISTING AHU-6. PROVIDE NEW 3P-40A CIB IN SPACE MADE AVAILABLE BY REMOVAL AND CONNECT AS REQUIRED. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD MANUFACTURER & AIC RATING (COORDINATE WITH FIELD CONDITIONS).
4	PROVIDE NEW 60A FUSED DISCONNECT WITH (3) 30A FUSES IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 1/2" O.D. IN 3/4" EMT CONDUIT FROM EXISTING WIRING TROUGH TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED. NEW FEEDER TAP FROM EXISTING WIRING TROUGH TO NEW DISCONNECT SWITCH SHALL NOT EXCEED 10' IN CONDUCTOR LENGTH.
5	PROVIDE NEW AIR CONDITIONING DISTRIBUTION PANEL AC-DP REFER TO POWER RISER DIAGRAM.
6	NEW AIR CONDITIONING PANEL AC-B. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
7	NEW AIR CONDITIONING PANEL AC-C. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
8	PROVIDE NEW DUCT SMOKE DETECTOR (MATCH EXISTING FIRE ALARM SYSTEM MANUFACTURER) FOR NEW RTU-11 SHUTDOWN. PROVIDE REMOTE TEST SWITCH (VERIFY MOUNTING LOCATION WITH LOCAL AHU).
9	RE-WORK EXISTING DUCT SMOKE DETECTOR LOCATION PER NFPA-72 AS REQUIRED TO ACCOMMODATE FINAL REVISED DUCTWORK LAYOUTS. CONNECT TO NEW AHU UNIT FOR FAN SHUTDOWN.



**1st FLOOR PART PLAN SECTIONS B & C ELECTRICAL NEW WORK**  
SCALE: 1/8"=1'-0"



**KEY PLAN**  
NO SCALE



**© COPYRIGHT**  
This drawing is the property of Bemis & Associates, L.L.C. and shall remain the property of Bemis & Associates, L.L.C. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Bemis & Associates, L.L.C. All rights reserved. Bemis & Associates, L.L.C. is an Equal Opportunity Employer. Any adjustment or violation of the rights of Bemis & Associates, L.L.C. shall be deemed to be a violation of the laws of the State of Connecticut.

**GIDEON WELLES MIDDLE SCHOOL**  
**AIR HANDLING UNIT REPLACEMENT**  
GLASTONBURY, CONNECTICUT

**BEMIS & ASSOCIATES, L.L.C.**  
Consulting Engineers  
185 Main Street  
Farmington, CT 06032  
Tel: (860) 321-7070  
Fax: (860) 321-7070  
www.bemisandassociates.com

TITLE  
**1st FLOOR PART PLAN SECTIONS B & C ELECTRICAL NEW WORK**

DATE **07/28/2023**

DWG. NO.  
**E1.1**



© COPYRIGHT  
This drawing is an electronic file and shall remain the property of Bemis Associates, L.L.C. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Bemis Associates, L.L.C.  
Submittals and installation of devices to be used in this project shall be coordinated with the manufacturer of the device. Bemis Associates, L.L.C. shall be responsible for obtaining the necessary permits and approvals from the appropriate authorities.  
Any adjustment or violation of the rights of Bemis Associates, L.L.C. shall be provided to the client under the law.

# GIDEON WELLES MIDDLE SCHOOL AIR HANDLING UNIT REPLACEMENT

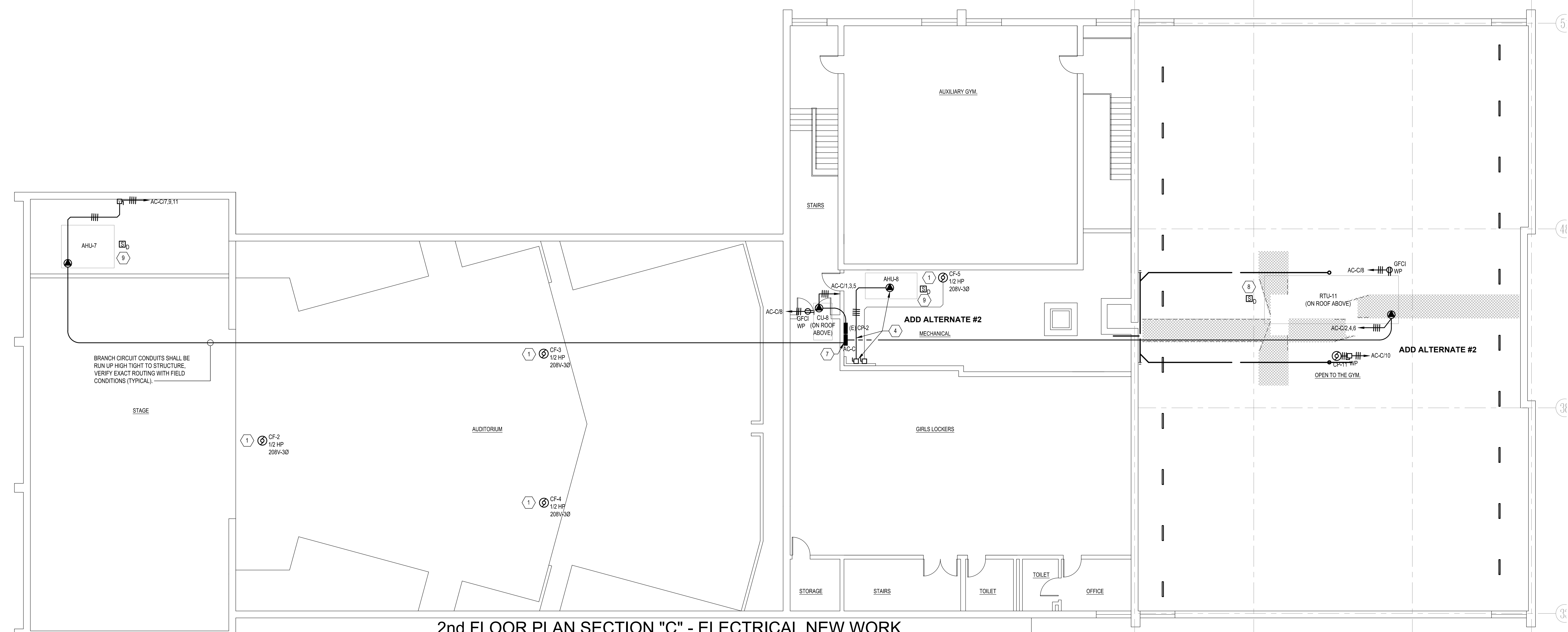
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.  
Consulting Engineers  
185 Main Street  
Farmington, CT 06032  
Tel: (860) 321-7070  
www.bemisassociates.com

TITLE  
1st & 2ND FLOOR  
PART PLANS  
SECTIONS B & C  
ELECTRICAL NEW  
WORK

DATE 07/28/2023

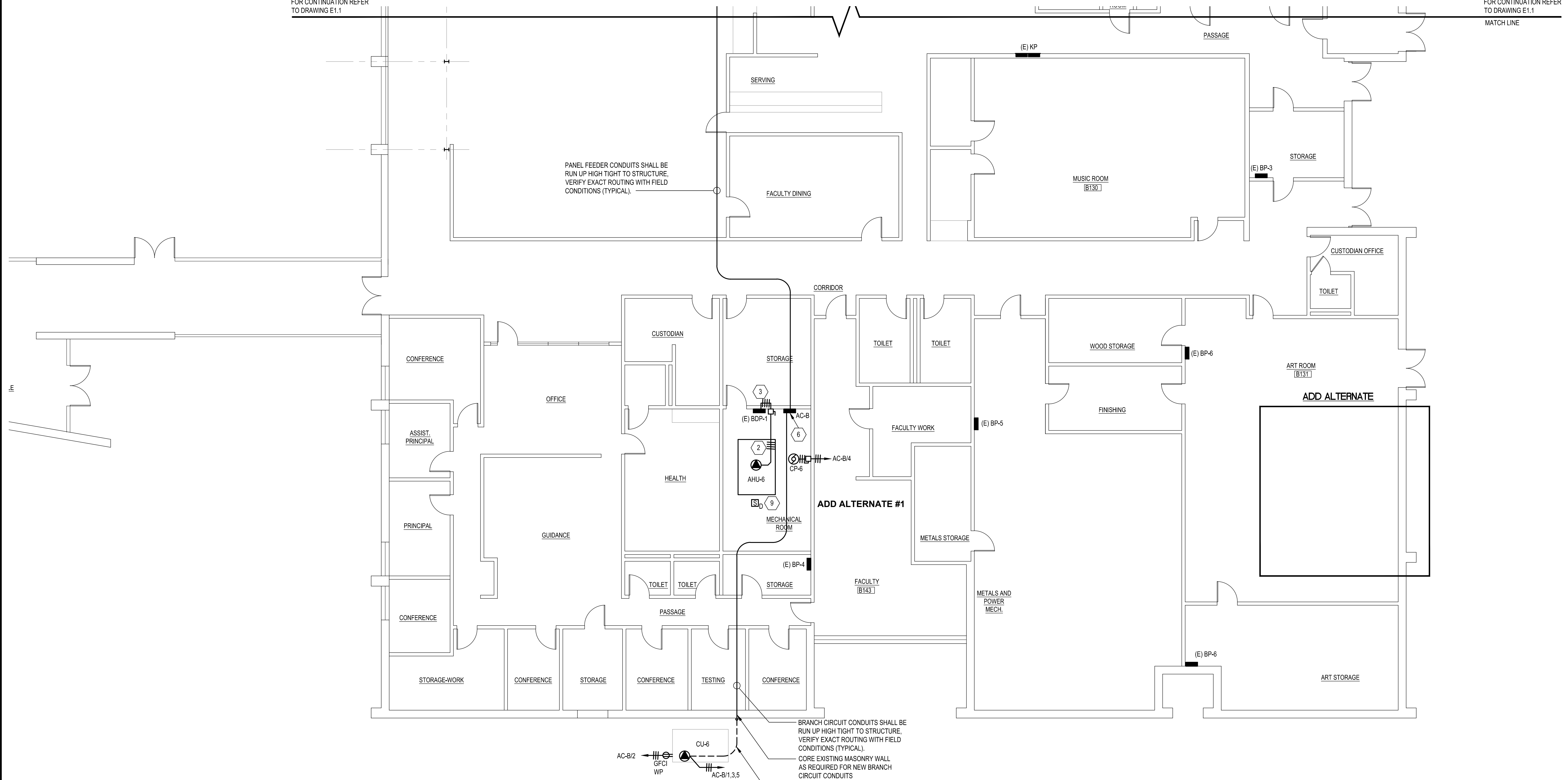
DWG. NO.  
**E1.2**



2nd FLOOR PLAN SECTION "C" - ELECTRICAL NEW WORK  
SCALE: 1/8"=1'-0"

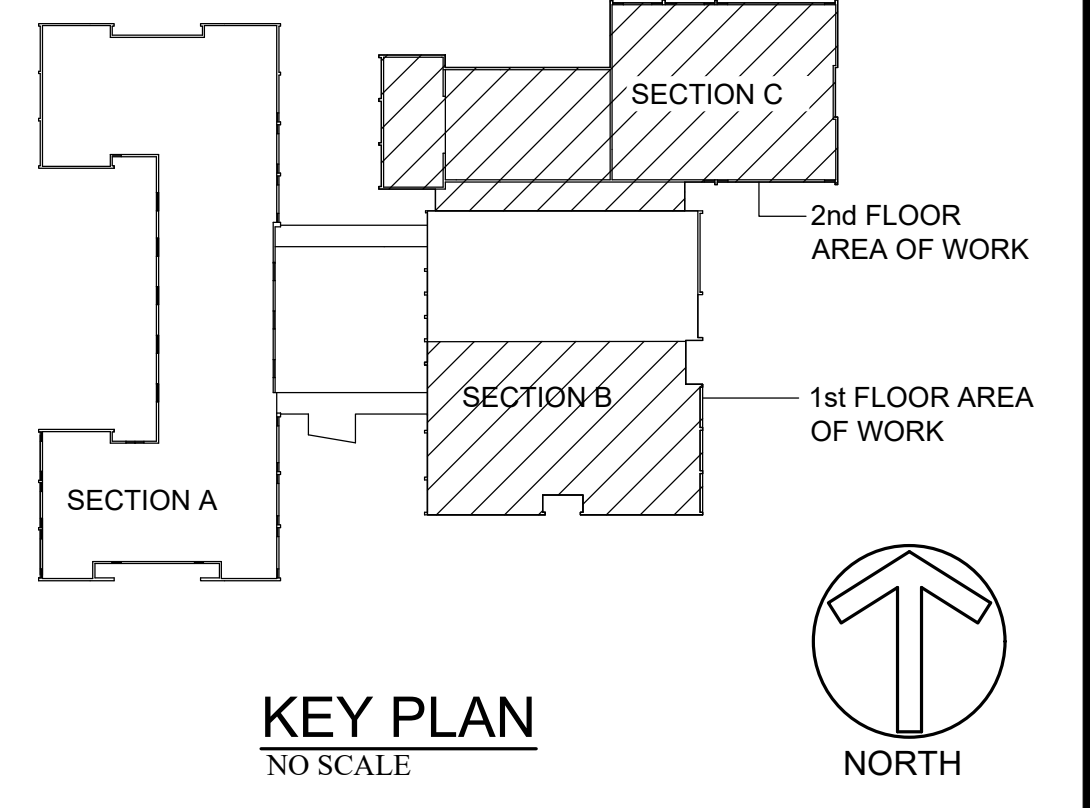
FOR CONTINUATION REFER TO DRAWING E1.1

FOR CONTINUATION REFER TO DRAWING E1.1



1st FLOOR PLAN SECTION "B" - ELECTRICAL NEW WORK  
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK KEYNOTES	
TAG	DESCRIPTION
1	CONNECT NEW EXHAUST FAN (FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR) TO EXISTING BRANCH CIRCUIT CONDUCTORS AS REQUIRED (MAINTAIN CONTINUITY).
2	PROVIDE NEW 60A NON-FUSED DISCONNECT IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 3/8" 1/10G IN 3/4" EMT CONDUIT FROM EXISTING PANEL BD-1 TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED.
3	REMOVE EXISTING 3P-20A CIRCUIT BREAKER IN EXISTING PANEL BD-1 SERVING EXISTING AHU-4. PROVIDE NEW 3P-40A CB IN SPACE MADE AVAILABLE BY REMOVAL AND CONNECT AS REQUIRED. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD MANUFACTURER & AIC RATING (COORDINATE WITH FIELD CONDITIONS).
4	PROVIDE NEW 60A FUSED DISCONNECT WITH (3) 30A FUSES IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 1/10G IN 3/4" EMT CONDUIT FROM EXISTING WIRING TROUGH TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED. NEW FEEDER TAP FROM EXISTING WIRING TROUGH TO NEW DISCONNECT SWITCH SHALL NOT EXCEED 10' IN CONDUCTOR LENGTH.
5	PROVIDE NEW AIR CONDITIONING DISTRIBUTION PANEL 'AC-DP' REFER TO POWER RISER DIAGRAM.
6	NEW AIR CONDITIONING PANEL AC-B. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPPING, DUCTWORK, ETC.) PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
7	NEW AIR CONDITIONING PANEL AC-C. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPPING, DUCTWORK, ETC.) PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
8	PROVIDE NEW DUCT SMOKE DETECTOR (MATCH EXISTING FIRE ALARM SYSTEM MANUFACTURER) FOR NEW RTU-11 SHUTDOWN. PROVIDE REMOTE TEST SWITCH (VERIFY MOUNTING LOCATION WITH LOCAL AHU).
9	REWORK EXISTING DUCT SMOKE DETECTOR LOCATION PER WPA-72 AS REQUIRED TO ACCOMMODATE FINAL REVISED DUCTWORK LAYOUTS. CONNECT TO NEW AHU UNIT FOR FAN SHUTDOWN.



KEY PLAN  
NO SCALE

